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The Personal Side of Practice

LOOKING over one of the numerous trade-journals a day or two ago, (I forget just what journal it was), I read the following piece of trade-philosophy: "If you think you can keep a man's patronage in your store, and look over his head when you meet him on the street, you have another guess coming."

Far be it from me to suggest that the practice of medicine is a trade or that a physician's professional standing depends upon the extent to which he can ingratiate himself into the good graces of his neighbors. Still further from my mind is any suggestion that any man—be he physician or merchant—should cultivate the good will of his neighbors for the sake of the business he expects to get out of them.

Nevertheless, the profession of medicine resembles the business of a merchant to this extent, that, no matter how full one's hands may be of good things which people need or how ready one may stand to deliver these good things into the hands of those who need them, one can not force them upon his fellows, but can only furnish them on request; and people will not request them unless they feel some kind of trustful and congenial sentiment toward him who has them to bestow. In other words, no matter how well equipped or thoroughly trained a physician

may be in a technical way, when it comes to the exercise of his functions he is obliged, like every other worker who deals with men and women, to exercise them through the channels of human nature; else will all his fine training and equipment be just so much glittering, but barren, decoration, serving no useful purpose.

Consequently, I could not help reflecting that the little squib of trade-philosophy quoted at the outset applies every whit as much to the doctor as to the tradesman. No matter how irreproachable his credentials, the doctor cannot hope to succeed in doing much with his talents, to say nothing of acquiring much of a competency, who "looks over the heads of his patients when he meets them on the street." The older men, especially in the smaller towns, soon learn this by experience. That is one of the reasons why they surpass the younger men. And the young doctor who is wise enough to hear and regard the lesson from the lips of his elders invariably passes and outstrips those who despise it.

However much it may tickle our vanity to regard ourselves in the light of impersonal scientific experts, called in consultation only on account of our skill and knowledge by persons who feel they can not do without us

(and occasionally, here and there, there may be a man who succeeds along those lines), yet, in general, that is not the way in which the public looks upon us and our services.

Humiliating as it may be to the self-conscious physician to contemplate, people regard us doctors as being engaged in a competitive business. They think and talk about "employing" us—sometimes they even speak of "hiring" us—and, naturally, they prefer to engage an agreeable man to employing a snob.

But there is a pleasanter side to the matter. The average patient, particularly in the smaller towns and rural districts, regards his medical attendant in the light of a family-friend and adviser. But, unless he bears out this relation, he does not fulfill this function. And, certainly, he can not hold this relation to his clients when he looks upon them impersonally as so many "cases" and gives them the "stony stare" when he meets them outside of professional calls. A person expects more personal interest than that even from the man who furnishes him coal or meat; how much more from him to whom he looks as his counselor and confidant in the most intimate matters of sickness and health.

It is not necessary that this attitude should be overdone, that the doctor should force himself upon the social life of his patients. But, cultivate the personal side of your professional relations, not alone because of the larger financial returns it will bring you, but, above all, because of the greater scope it will afford you for doing good with the skill and talent that you possess.

To make a sensation, be one.—Gerald Stanley Lee.

THERAPEUTICS OF THE EMOTIONS

We yet grope in darkness, but toward the east there are glimmerings that betoken the coming dawn. We may hope that the dense blackness of human ignorance, the clouds of superstition and the mists of deception may be dissipated; that the benumbing cold of discouragement and the sloth of hopelessness may be thrown off, and the race start along the path of true progress, animated by ambition and enlightened by freedom.

All of which may be very fine—but what's it about?

Why, simply this, that the most primary truths, that should be self-evident to every man whose noddle circumscribes a think-machine, seem to occur at rare intervals, to lone individuals, who quickly forget them;

or else they proclaim them as startling innovations that arrest public attention a moment and are then extinguished by neglect or driven out by public clamor.

Take a few examples, not enough to be burdensome or exhaustive—or exhausting. For centuries, at intervals, some bright fellow has arisen to remark upon the melancholy induced by constipation and fecal reabsorption (as we now know it), and his hearers have applauded wildly, said he told the truth, and then forgot all about it. Nobody ever put it more succinctly and truly than did Voltaire, but the discovery has been made independently before and since his day, many hundreds of times; and each discoverer has been penetrated with the vast importance of his discovery.

But it has been only in the most recent times that this important truth has so permeated the consciousness of the mass of the medical profession as to become an integral part of their practice. Just now the man who heralds as an enlightenment the proposition that fecal toxins induce emotional depression would be received much as if he had asseverated that the sun goes around the earth.

Once really appreciated, the evidences of the malady are easily recognized. When a man's conversation over the telephone makes you surmise that his ordinary diet of shingle-nails has been adulterated with tenpennies, you fervently adjure him to take a few pills, then ring off. When the wife of your bosom chats with you for half an hour in the dulcet tones of a lonesome cat because you didn't stop and inquire about her mother's health and then puts in another half hour like two lonesome cats when she finds you did, you ring up the pharmacy and order another pound of saline laxative.

Now that we have found one solid footing in the swamp surrounding us, why can't we take another step? There are little glimmers of light about us that may be will-o-the-wisps; but we think not. For one thing, we have arrived at or near to the right road by first taking every other that could possibly be taken; and by this sure although decidedly slow method have eliminated the chances for error.

One of these brilliant flashes of genius occurred to ourselves many years ago. This was when we announced that valerian was a remedy for grief, inasmuch as persons unnerved by trouble could, by taking a few doses of it, restore their self-control. What influence this curious old drug has over the bodily functions to make it impart such con-

trol is a study we commend to the man who knows his physiopathopsychology so completely that there are no dark corners to him. All our lives we have been looking for the man who possesses this consummate knowledge of the human being. Several times we have heard from his own lips that he existed, but each time it proved a sad case of self-deception.

Scintillations should not come too closely together, but here's another: Sleep, the same as fatigue, is induced by the accumulation of the toxins formed by the waste of tissue in work. When our physiologic chemists have isolated the particular hypnotic toxin, we have the remedy that will displace morphine from its throne, and relegate to oblivion the German synthetics, that in rapid succession have enjoyed each for a brief season the proud distinction of being the really best and most absolutely perfect of their genus. Meanwhile, here is the scintillation: a hot bath removes every vestige of fatigue together with its consequent somnolency.

Completely exhausted by the labor of concocting one of these editorials, so that we nearly fell asleep over the last page (maybe you noticed it), we took such a hot bath. The relaxation was so grateful that we lay in the tub for nearly fifteen minutes. Per consequence we suffered a sleepless night. Repeated trials, after fatiguing ourselves with ax and spade, convinced us that this was no chance sequence, but consequence, and we are ready to contend believingly that the hot bath removes the sense of fatigue and prevents its usual results.

Follow this up a ways. The fatigue-toxins are eliminated through the skin; very quickly, indeed, under the stimulus of heat in the moist form; they should be recoverable from the bath water; the transfer from muscle through blood to and through the skin must be rapid; and the chemist may place the substance pretty near its class by noting these characteristics. Is the elimination of these toxins enough to enable one to go on working without rest, or is a period for recuperation of the exhausted muscular fibers, with due nutrition, also necessary? Some tireless man might try the experiment—it is our place to indicate rather than to do things.

To what do these glimmerings point as to the future development of medical science and art?

The practitioner of the near future may diagnose the psychic state and from it read the physical disorder. He may trace undue pugnacity, and let out a few Ccs. of bile;

too much grief, and supply the specific astringent for the lacrimal gland; excessive hilarity, and constrict the cerebellar arterial system; exaggerated caution, and he injects a serum from the backbone—and so on and on. The psychic diagnosis is the index of the system, as the uranalysis used to be. The hen-medic will come into her own, since in swiftly interpreting emotional states she distances us without effort. The laborious work of the present pathologist will seem like that of the early mathematicians who constructed the multiplication table.

Will that happy day ever really come?

I know a man . . . who crammed his brains with books, and learned whole sciences by heart, and read till he could read no more: that was how he furnished the room, and it looked like the inside of a second-hand furniture shop.—From "Confessio Medici."

HOW IDEAS GROW!

One of the recompenses of age is, that as the years roll by one gets a broader view of man and his doings. How the point of view does change as men grow accustomed to new ideas and gradually assimilate them.

The "modern germ theory" it was termed at first. Strong was the sentiment of opposition, rather of condemnation. It was "radical, extreme; revolutionary; those light-heads, who are ever ready to fly away with every will-o-the-wisp, they all rally to it." Later, "well, there may be some truth in it—perhaps—but not nearly what these crazy fellows claim. Why, soon they will be saying that all disease is caused by germs."

The day came when I myself threw this opprobrious charge at an advocate of the germ theory. But he replied calmly: "Well, every effect has a cause; every irritation presupposes an irritant; and this irritant can be only a vital or a chemical agent. Your chemical irritant may be of microbic or other origin; so you again come back to the microbe."

The more closely I studied this proposition, the stronger its logic appeared; and, with the rest, I soon quit objecting to the germ theory. Nowadays everybody whose opinion is worth anything admits it, reasons from it, acts upon it. Nobody contests the genesis of certain diseases from living organisms, because enough instances have been proved, and there is no supportable theory of other cause to which they can be attributed.

Then, again, how the application of therapeutics against these germ invasions has developed since Lister sought to meet them

grossly with carbolic acid. The promised simplification of practice has not materialized. The proposition was: "germs cause disease; ergo, kill the germs." But instead of this we have been forced by nonsuccess to study the biology of germs, to recognize each variety as a separate entity, and to build a new science, that of bacteriology, to enable us to comprehend these creatures and seek the means of opposing them successfully. New knowledge, new ideas, new remedies and methods; in effect, the adoption of the "modern germ theory" has opened the door to a new world in medicine.

Now, all this lucubration results from reading the quotation opening of Stubbs' paper on "Fallacies in Regard to Contagious Diseases," as printed in our February and March numbers. Were we to set down all the thoughts developed by perusing that admirable paper, the editor would interpose his *non possumus*.

The men who are busy miss half of the work that's hunting for victims to slay; they get all the cream in this valley below, while idlers subsist on the whey; while fortune kicks others she'll give you a kiss, you'll win more applause and you'll know more of bliss, if you always keep pegging away.—Walt Mason.

THE ABDERHALDEN SERUM REACTION

No discovery of recent years has created more interest in the medical profession than that of Professor Emil Abderhalden, of the University of Halle (a portrait of whom was printed in our January number), relative to the serodiagnosis of pregnancy and of various types of malignancy. An excellent résumé of Abderhalden's diagnostic methods appears in a recent issue of *The Boston Medical and Surgical Journal* (Feb. 26, p. 303); being a paper by Dr. A. K. Paine, in which he discusses the serodiagnosis of pregnancy. The following remarks are based in part upon that article.

The Abderhalden theory is based upon the fact, now pretty well recognized, that, when substances (cell proteids) common to body-tissues but of different formation are introduced into the animal body, they first must undergo a digestive, or lytic, process before they can be disposed of or eliminated. This digestive process is effected through the action of certain protective ferments that attack the foreign substance and change it into a form acceptable to the organism.

The vital point in the Abderhalden theory is, that every individual foreign proteid

entering into the circulation has the power of stimulating the body-cells to produce a specific enzyme capable of effecting its digestion. For illustration, let us take the case of pregnancy.

Shortly after pregnancy is established, and continuing up to and for some days after its termination, chorionic epithelial tissue or cells enter the circulation of the mother. This epithelium acts as a foreign proteid, and as such gives rise to the formation in the blood of a special protective ferment, which attacks those cells, renders them soluble, and so makes them acceptable to the organism.

Exactly the same thing occurs in the case of carcinoma or sarcoma. In the former, the carcinomatous cells that may escape from the tumor into the blood set up a reaction, in consequence of which a protective ferment is formed specific for cancer-cells and capable of destroying these, and these only. The same is true in sarcoma, and in dementia præcox, epilepsy, and doubtless many other diseases the etiology of which we do not understand as yet.

Taking into consideration these observations, Abderhalden arrived at the conclusion that, inasmuch as this digestive process occurs within the living body, it might possibly be reproduced outside of the body. In other words, if a portion of blood be withdrawn from a patient suffering from, say, cancer, the blood-serum ought to contain the ferments capable of causing the digestion of cancer-tissue. Then, inasmuch as the albumins, as they occur in the body, are colloids and therefore incapable of passing through animal membrane, by this specific digestive process they would be converted into soluble substances capable of passing through such a membrane.

In order to perform this test, therefore, the investigator must be provided with a supply of tissue of the same kind as that conjectured to be present in the subject's body. This tissue is cut into small pieces, washed, subjected to certain preparatory treatment, and then carefully dried. Some of it is then placed in a parchment bag with the fresh blood-serum withdrawn from the patient whose blood is to be tested. Then this parchment bag is immersed in sterile water and kept in this surrounding medium at body temperature for a period long enough to permit of the specific digestive process.

If, under this treatment, any digestion of the cancer-tissue takes place, the products of digestion will dialyze through the parchment membrane into the water outside, where they

may be detected by the addition of ninhydrin, this agent imparting to the liquid a violet color in the presence of protein derivatives. If this occurs, the reaction is pronounced a positive one; in other words, the patient is assumed to be suffering from cancer.

The method of procedure is exactly the same in execution for pregnancy, for sarcoma, for dementia præcox, and for other diseases, except, of course, that the test-tissues employed—sometimes called “fundaments” or “substrats”—will be different; being, in each case, a specific tissue for the disease in question. Thus, for pregnancy, the fundament is placental tissue; in dementia præcox, it is the testes or ovaries; in sarcoma, it is sarcomatous tissue. So for other conditions.

The execution of the test, it hardly need be said, is not easy. It must be carried out correctly in every minutest detail, otherwise confusion is bound to follow. To illustrate the ease with which mistakes may occur, we may quote from Paine's article the experience of two investigators, Schimpert and Hendrey, who, working in Freiberg, were unable to secure the results reported by Abderhalden. Thereupon these two men went to Halle and in Abderhalden's laboratory perfected their technic; however, upon returning to Freiberg, their tests again failed. Finally, investigation disclosed the fact that the water of Freiberg employed for washing the placental tissue was so soft as to cause hemolysis of the blood in the placenta, which resulted in a contamination of the material and a distortion of their results. By simply adding salt to the wash-water, they were enabled to duplicate Abderhalden's work.

The details of the Abderhalden test have not, of course, all been worked out as yet, and that it will do in every instance what is claimed it is perhaps too early to assert. For instance, it is reported that an investigator in the medical department of the University of Illinois has secured positive pregnancy Abderhalden reactions in all cases of pneumonia, in men as well as in women. Just what may be the significance of these results, we shall not undertake to say until they have been reviewed by others. In the main, however, it seems to be the experience of many workers in this field that the tests are specific for the respective specific diseases or conditions, and that failures mainly are attributable to defects in execution or lack of proper controls rather than to any error in the fundamental principle as laid down.

Should these tests work out as expected, they are bound to open up interesting lines of

research. Not only will it be possible to prove definitely the accuracy or the inaccuracy of a diagnosis in a given case long before this would otherwise be possible, but it may become possible to determine the character of many a disease the nature of which is so obscure as to give no clue to its identity.

What, indeed, is to hinder the laboratory-worker from collecting a “battery” of fundaments comprehensive enough to include all the important tissue aberrances likely to be encountered? With such a battery, the serum of any patient suffering from some obscure disease could be tested against a dozen different tissues, if necessary, until the fundamental flaw would absolutely be “run to earth.”

The Abderhalden test also may serve as a guide to research. For instance, it has already practically revealed, it seems, the identity of the pathogenic factor in dementia præcox, a disease which long has baffled all investigators. Thus it has been shown that, in this disease, the patient's blood reacts to the sexual glands. Acting upon this last suggestion, Dr. G. Frank Lydston, of Chicago, already has begun a series of experiments upon living individuals to determine the results effected by the transplantation of testicular tissue or ovaries. If the fault lies, say, in a diseased ovary, then the removal of this gland and the implantation of normal ovarian tissue ought to yield good clinical results. We understand that Doctor Lydston is making such transplantations, and his results will be watched with interest and anxiety.

Now, if in the case of dementia præcox the Abderhalden test is capable of throwing light upon the etiology of an obscure disease, is it not probable that, using the same methods, it may reveal the essential etiology of many other obscure diseases? To us it does seem probable.

Still another line of research made possible by the Abderhalden test is the therapeutic one. The foreign tissue elements which enter the blood—in the course of pregnancy, in cancer, and in the rest—act upon the blood in a way exactly analogous to the antigens which play such an important role in the establishment of immunity. Just as the antigens cause the appearance in the blood of protective antibodies, so the “fundaments” occurring as a result of disease cause the production of protective enzymes. It seems but a step, then, to the possibility of collecting these protective enzymes from the bodies of experimental animals and using them in the treatment of disease; primarily, of course, to arrest its progression.

We advise every doctor interested in the advancement of medicine to follow closely Abderhalden's work. That it will be "all gold," that there will be no discouragements and no failures, we do not believe; but that it promises much for the interpretation of disease and probably also for its relief there seems to be no question.

And, into whatsoever houses I enter, I will enter into them for the benefit of the sufferers, departing from all wilful injustice and destructiveness, and all lustful works, on bodies male or female, free and slave. And whatever, in practice, I see or hear, or even outside practice, which it is not right should be told abroad, I will be silent, counting as unsaid what was said.

—From the Oath of Hippocrates.

THE HARRISON ANTINARCOTIC BILL

The Harrison Antinarcotic Bill (H. B. 6282), to which we have referred several times in these pages and which already has passed the House of Representatives, has at last been favorably reported by the Finance Committee of the United States Senate, and is now before that body for final action. Several minor changes were made by the Senate committee, the most important being the inclusion of hypodermic syringes and needles upon the same terms exactly as narcotic drugs; in other words, if the bill passes as it reads at present, purchases of such syringes and needles must be made upon the official order-blanks provided by the government, and dealers in such apparatus will have to be licensed the same as dealers in drugs. This proviso will not seriously inconvenience the physician, and should be acceptable to the medical profession.

So far as the doctor is concerned, the only amendments made rather add to the liberality of the bill than otherwise. A portion of Section 2 has been changed to read as follows:

"Nothing contained in this section shall apply—(a) To the dispensing or distribution of any of the aforesaid drugs to a patient by a physician, dentist or veterinary surgeon registered under this Act in the course of his professional practice only: Provided, That such physician, dentist or veterinary surgeon shall have been specially employed to prescribe for the particular patient receiving such drug or article; And provided further, That such drug shall be dispensed in good faith, and not for the purpose of avoiding the provisions of this Act."

The wording of this section is considerably more liberal than it was when passed by the

House of Representatives. This change we feel sure will satisfy every physician.

Every physician who reads these lines should use all the influence at his command to secure the passage of this bill. We particularly urge you to write to your senators, requesting them to vote for it, and to *oppose any amendments likely to embarrass or burden the profession. As it stands*, it can harm no clean physician. Strong efforts have been made to secure the passage of a bill that would hamper the physician in his right to dispense, and even yet this bill may be so revised as to cause the doctor serious difficulties. Object to amendments involving the physician in some possible maze of book-keeping.

No honest doctor, druggist or manufacturer can complain of injustice or oppression if the present bill becomes a law; yet, it will effectually limit, and we hope in the end absolutely prevent, the sale of habit-forming drugs for illegal purposes.

Let us all show that we are on the right side, by getting our shoulders to the wheel. Don't delay—act at once. Write to your senator.

REASON AND EXPERIENCE

Assuredly, those who sing the efficacy of intestinal antiseptics have plenty of authority for their justification. The experiments made by Stern and others seem to show conclusively that neither calomel, naphthol, naphthalin, salol or camphor really diminish the number of microbes inhabiting the intestinal canal, except as any of these agents may act mechanically as a purgative. Thymol, in doses of 9 to 12 Grams administered during three days, according to Cohendy, reduced the number of the microbes to one-thirteenth. But such doses are too perilous for any purposes except in emergencies.

In truth, the use of intestinal antiseptics rests solely upon clinical experience. This is "notoriously untrustworthy," but nevertheless it has its value. For the sulphocarbolates, the testimony is significantly unanimous—when these are employed with proper purgation, the patient gets well with a certainty that has few parallels in therapeutics.

Time and again some stout pessimist, honest withal and rather than lose a chance of benefiting his patient, has reluctantly consented to give this remedy a trial. I know beforehand the verdict, I have heard it so often: "The sulphocarbolates have been a revelation to me."

Surely. Because despite all theoretic objection, despite the *a priori* reasoning, that they "can't disinfect the bowels," the patient gets well, and his crisis passes when the stools lose abnormal odor.

The difficulty is a logical one—reasoning from premises that do not justify the conclusion. The mistake is in assuming that these remedies can benefit only by reducing the intestinal population and lessening the excretion of urinary toxins.

Again, we must ask you to remember that a fact may remain a fact even when our explanation of it is incorrect. The history of medicine is full of instances where this truth has been demonstrated. We dreamed golden visions as to the increase in human longevity when vaccination extinguished smallpox; and who could have foreseen the rapid increase in the prevalence of scarlatina and measles in consequence of the greater number of possible victims left to these maladies?

Another, and curious, instance is the result of "fletcherizing." We all know people did not masticate their food enough and that the process of digestion should be well under way before the food left the mouth. But it has turned out that this occasions a loss of tone in the intestinal musculature, and the title of bradyphagy has been coined to express the resultant condition. Einhorn finds a rapid cure resulting when patients are directed to bolt their food, after very little mastication.

"Deny everything and demand proof."

"Take nothing for granted," as the man said who sat down on a scorpion. Don't make the mistake of knowing too many things that are not so.

Doc Duffy says he once knew a doctor that read books until he had all the medical learnin' except what hadn't been found out, and then died a pauper with all his patients debtors to him.—*The Willows Magazine*.

MRS. WILCOX ON VIVISECTION

Ella Wheeler Wilcox, in *The Cosmopolitan* for March, has a lot to say about vivisection and its effects upon the men who practice it. The good lady may not be very good authority as a critic of matters and men medical, still, she and the magazine have a large audience, and the impression made by such articles matters quite a deal to us. Besides, we may read these screeds, with wholesome chastening for they present one aspect of the public's belief about us. Let me expatiate:

I have always been somewhat careless as to the proper expression of my ideas, and many

times have been blamed (as I felt, undeservedly) because people who read my writings took from them impressions not at all those I had in mind and endeavored to convey. Allowing that the trouble often has been with those who failed to read carefully or understandingly, yet, part of the fault lay with me, as I had not so expressed myself that all could readily grasp my meaning. Witness, for instance, the kindly folk who are seeking to demolish my argument "advocating" (?) war, when in fact I tried to say that those young rascals had better become soldiers, fighting for their country, than burglars and footpads.

Now let us hear what the lady in question has to say about us. Says she:

"All that the antivivisection societies can hope to accomplish is, free investigation of the methods employed by physicians in this craze for experimentation on animals." Pass we the conflict invited by the word "craze," and we humbly consent to those societies' full and free activities if they will thus limit their own efforts. Whatever can not endure "free investigation" does not command the support of the body of our own profession. However, we do not allow to go unquestioned the testimony of "detectives" who were hired to attend the scientific courses for the purpose of finding something. Those gentry naturally try to earn their pay.

Mrs. Wilcox quotes Winslow: "In the British Hospital for Mental Disease none of the medical men associated with it has ever in any way adopted remedial agencies as the result of any vivisection so-called discovery." This argument is too limited logically to be very effective; and the facts are too questionable, the inferences too varied to give it any special value. It might, indeed, be used tellingly by competitors against that staff of medical men.

"The craze for operating upon human beings, which has been growing so rapidly for the last ten years, is an outgrowth of the vivisection mania." Here, let it be admitted, is food for thought. Is there such a "craze"? Does vivisection arouse it?

Each may answer from his own observation. Men certainly do grow callous as they become familiarized with operations, and they even may get to crave the sight of blood. The law recognizes this, inasmuch as butchers are excluded from juries trying murder-cases. Blood, suffering, death do not affect the older man as they do the first-course student. Whether operating upon animals also brings this result we can not say from personal ex-

perience, but see no reason for doubting the possibility.

The lady totally misses the point of Crile's report, to which she refers, which is the honesty of the man who acknowledges that with better judgment he might have saved more lives. Crile knows he is not infallible, and manfully says so. Read that again, Ella, and ask yourself whether you find it so very easy to own up when you have been guilty of some serious mistake.

"Every physician who advises an operation should be made to put his statement into writing, saying it is the only remedy which can save the patient's life."

By no means, dear lady, you mistake utterly the function of the surgical procedure. It is right whenever the physician can truthfully state that in his opinion it is the *best* means of treatment at the time available. Operations that alone save life are few and form but little of the surgeon's legitimate duties.

"The physician of the future is one who will teach people how to breathe, how to exercise, how to think, how to eat and drink; and people so taught will need few medicines and operations."

Well, now she begins to talk as if she might have read some of our own editorial efforts advocating preventive medicine. We agree fully.

She quotes a record of six cases of cerebrospinal meningitis in which four of the victims treated without the Flexner serum recovered, while the two that had received this serum died. Too few, dear lady; we require far more experience to decide the fate of a promising remedy. Wait for fuller returns.

Finally she quotes Dr. Max Meyer: "It is, then, evident that serum therapy is not alone empirical and dangerous, but also uncertain and erroneous; hence, we should abandon the path we have been induced to follow, and, instead, should study vegetable and mineral substances more carefully and thoroughly, because we can weigh, measure, and analyze them perfectly."

She adds: "Here we have the key to the solution of this problem."

If the gifted writer really believes this last sentence, she should procure a supply of the literature relating to American plant remedies and study that. The work done here by untitled Americans, without any huge subsidized "institute" to back them, but just the undaunted spirits and tireless minds of sturdy men who wouldn't be downed, might be a revelation to her, and perhaps an in-

spiration as well. But as to abandoning any newly opened path, leading, perchance, toward our goal—we say, No! Whether that path be biologic medicine, synthetic chemistry or active-principle therapy we should follow it stubbornly—but hopefully—to the end.

People came to me, not because I had a degree in surgery, but because they knew I could set them on their legs again, if anybody could. Which I did by the grace of God: and they were well pleased, and gave me many honorable presents of great value.

—Ambrois Paré.

SHALL WE MIX IN POLITICS?

Spring elections are in the air, and, in view of the political agitation which always stirs both city and village during these campaigns, it may not be amiss to address a few direct personal words to the doctor upon this subject.

What, then, should be the doctor's attitude toward a political campaign? Of course, no American with red blood in his veins can hold himself aloof from a political battle, whether he be a physician or a preacher or a lawyer or a merchant, or what not. Such self-repression is more than can be expected of any but a dead man. It is not expected of him. On the contrary, every man is expected to plant himself, frankly and squarely, on one side or the other of the conflict, and to support that side loyally.

The man on the fence or the man who apathetically evinces no interest in the issues is rightly disparaged by the public, which likes to know where a man is to be found on national and local questions and which loves warm blood and enthusiasm.

Therefore, it is neither to be desired nor expected that the physician should maintain an indifferent or cold-blooded attitude toward the political issues that are engrossing his locality. But we do wish to admonish him that, if he does not want his political proclivities to injure his standing or his business, he should take care to confine his partisanship to the holding and possibly to the somewhat occasional expressing of personal opinions, and voting on them at the proper time.

The doctor's position and work in the community are of such a peculiarly public nature that it is very unwise for him to take any very active part for or against any side. He is sure to offend someone; and that someone is sure to have friends and relatives who will resent such an "offense;" and the offended

parties are more than likely to be among the doctor's present or prospective patients.

We are not preaching the prostitution of a physician's principles to commercial policy. No one has a greater contempt than we for the time-server. But, as already intimated, the position of the doctor in his community is a peculiar one, and he is not required to injure his efficiency and curtail his usefulness by going out of his way to stir up political enmities.

There is no reason why he should not frankly take sides and make known in manly fashion where he stands on this and that question. For such an attitude as that he will receive nothing but commendation from all right-minded people. Nobody will bear him any ill-will for that. Nor do we overlook the fact that there may be times and occasions when, even at the risk of hurting his practice, his honor and manhood will demand a more pronounced and active stand. But, as a rule, he will do better, upon all considerations, to maintain a more or less dignified and quiet aloofness from political squabbles, and, above all, to avoid any political entanglements that will embroil him in personal or professional controversy with individuals.

When you come to think about it—did your growling
ever pay?
Did it ever bend a rainbow—chase a thunder cloud
away?
Don't it deafen all the angels when they try to sing
an' shout?
Don't they know that there's but little in this world
to growl about?

—Frank L. Stanton.

THE DOCTOR IN THE SICK-ROOM

Someone has said that in the home the wife is the secretary of state. It is equally fitting to say that the doctor is the commissioner of health. Especially is this true of the family physician, and particularly so in the smaller towns and rural districts, where life remains nearer to first principles than in the larger cities and the division of labor is simpler. His duties and responsibilities by no means are confined to the mere diagnosis and treatment of disease; they are not even limited to times of sickness.

The modern physician, if he would discharge his whole obligation and measure up to the public standards, must constitute himself the adviser and guardian of the family in all matters that pertain to the preservation of health. When sickness comes, he is fortunate if he has at hand and under conditions that

make her services available, a competent trained nurse, who then becomes his executive health-officer, and his *aide*, to carry out the details of his regimen.

In many instances, however, and for various reasons, such assistance is not available, and he is then obliged, to a large extent, to be not only the attending physician but the trained nurse as well. He must take charge not alone of the case but of the patient's person and the sick-room. A great many people are wofully ignorant and helpless in the presence of sickness, and rely wholly upon the doctor, not only for the treatment of the patient, but for the latter's care and comfort. And this necessitates the doctor's being resourceful and handy in all of those little offices and functions of the sick-room which form so important a part in the successful outcome of every serious illness.

Such things are not taught in the medical school or the textbooks. The writer well remembers his own awkwardness in his early practice, which, as is so often the case, was in the country. A great deal is acquired, to be sure, in the course of individual experience, and the family practitioner usually develops considerable aptitude in this direction. But the highest kind of efficiency is represented by the net sum of general experience, as communicated from one to another.

The doctor who would command confidence and achieve success in his work cannot be too ready in these little matters of the sick-room. To the nurse, of course, they are her stock in trade, no less than the knowledge of technical nursing. They are an equally valuable asset to the family physician. Paraphrasing the noble manifesto of Terence, the doctor may well assert: "I am a doctor, therefore nothing that concerns the welfare of a sick person is a matter of indifference to me."

The care and service of the sick-room may appear of trivial moment to the mind of the modern physician, especially to the young physician fresh from the technical science of the schools; but the older and more experienced physician knows that nothing concerns the welfare of his patient is too trivial to be reckoned with in the struggle with disease, and that the conditions of the sick-room or of the household often turn the scale to victory or else to defeat.

We cannot all be hospital-surgeons, with a corps of trained attendants at our command. Most of us are obliged to be physician, nurse, and attendant, all in one; or, at least, we have to administer the last two functions

through untrained hands, which necessitates our constant supervision and practical direction. Therefore, nothing which helps in the intelligent performance of these humble offices should be indifferent to the true physician.

Education is the unfolding of life, the cultivation of character, the discharge of duty according to ideals which become nobler and more compelling as they are obeyed. This is a process that continues through life, involving pain and discipline. But the result will ennoble the life and strengthen the will to follow after that which makes for goodness and helpfulness.

—Quoted by The Willows Magazine.

SPRING PURGING

There is due about this time a good deal of ridicule directed against the ancient custom of spring depletion. From time immemorial it has been a general custom to deplete the system as the weather warmed up after the long term of winter. In days of yore, it was a brisk venesection that was *en règle*. As by and by the lancet fell from the degenerate hands of the descendants of the mighty bleeders of the past, the custom nevertheless continued in domestic practice. Many an elderly man may recollect the sulphur, and molasses, the sassafras, sarsaparilla, senna and manna, ipecac, and cathartics sundry and various with which his mother sought to relieve him of peccant humors, thick blood, and the concatenation of meannesses that had collected during the winter months.

There were several counts favoring the old dame's indictment—self-consciousness of the presence of the meanness, and the unquestionable sense of relief that followed the vigorous therapy. In view of the latter especially, few of us elder men could refrain from belief in the practice, although with added wisdom we might doubt its explanation.

In truth, this thing has never yet been satisfactorily explained. That one does feel better, lighter, relieved, exhilarated by the purging, everybody knows; that serious illness may have been thus averted, is not difficult to accept. But just why and how?

Nothing is easier than general negation. Just deny the usefulness of the procedure, demand positive proof and an explanation of the pathologic process involved.

Still, a thing may be true, even if we are unable to give a plausible explanation. How many wiseacres have taken the negative over the asserted influence of radioactive waters! The entire sixteen volumes of the unexpurgated "Arabian Nights" does not contain a solitary wonder so unbelievable as wireless

telegraphy. So many popular superstitions and beliefs have turned out to be true, that it is safest to assume the truth of any general belief until it has been disproved—and then to question the disproof.

The universal custom of spring purification is a phenomenon that has a reason back of it, quite as much as the convulsive movements of a frog intoxicated by strychnine. Don't try to explain it; but better act on it, and you will deserve the confidence of your patients.

THE TREATMENT OF TONSILLITIS

To illustrate what changes the acceptance of the "modern germ-theory" has occasioned in our practice, there is no better example than tonsillitis. Take any of the textbooks on practice or therapeutics of thirty years ago and compare them with the latest works on these branches.

Recognition of inflammations as infections leads us to inquire closely into the maladies of that exposed tract of vulnerable territory, the throat. We find this membrane subject to many passing attacks of catarrh, and that some of these are followed by inflammation and suppuration of the deeper tonsillar tissues; while others occasion gastric disorder with acidity or rheumatic fevers. Thus, it behooves the careful doctor to look well to his sore throats, and to stop the condition before it has penetrated deeply or extended far.

If you still claim that this germ-theory has not afforded any great improvement in actual therapeutic applications, make an exception as to tonsillar maladies; for we now treat these understandingly. We scarcely need to dispute over the comparative efficacy of local applications, since we know that any effective germicide puts a stop to these catarrhs, if it is applied before the disease-process has penetrated below the surface—and invasions of the mucosa begins at the surfaces. Ordinarily an occasional 5-grain tablet of zinc sulphocarbolate, allowed to dissolve on the tongue, suffices for the need.

In the case of persons subject to periodic attacks of suppurative tonsillitis or to rheumatism, this writer usually recommends this prescription.

Potassium chlorate, pulverized, 1 dram; hydrochloric acid, U. S. P., 1 dram. Put the chlorate in a 4-ounce vial, add the acid, and as the vial fills with fumes of free chlorine add water in small portions enough to fill it, shaking after each portion of water added. This affords a strong fresh solution of free

chlorine, and it is the most effective local germicide while at the same time harmless.

If you write a prescription, instead of preparing it yourself, it will be well to direct the patient to take a swallow of water just before each dose—a teaspoonful every hour till well. Take no water with or after it. I may add that if the letters "U. S. P." are written after the hydrochloric acid, the druggist may be led to use the dilute acid; hence, it is better to write also, "full strength," and add an "O. K." and your initials, to make sure. The good fellow gets so accustomed to correcting the mistakes of careless prescribers, and putting in what the doctor "should have ordered," that he may be tempted to substitute the diluted acid unless you take extra care.

This chlorine-water is effective as long as it retains the greenish tinge (imparted by the chlorine gas); when it loses its color to any extent, throw it away.

It is an excellent household remedy in the conditions above mentioned, and when diphtheria is prevalent should be employed whenever there is any sign of throat affection. It was originally introduced by Greenough, in 1820, as a remedy for diphtheria. In this writer's hands, it has cut short many an attack when used early enough.

When the tonsillitis has penetrated the pharyngeal tissues and set up suppuration, there are at command innumerable remedies from which to choose. Quinsy-balls were globules of fused impure potassium nitrate. These were allowed to dissolve in the mouth and really possessed some efficacy, although difficult to explain. Mackenzie's guaiac lozenges, sodium salicylate, quinine, ammonium chloride, each possesses efficacy. Aulde urged the local application of nuclein solution.

However, the best, in this writer's experience, is quick saturation with calcium sulphide; a centigram every ten to thirty minutes, until the skin exhales the odor of the drug. As a matter of course, the alimentary canal must be cleared completely.

This by no means exhausts the list of modern remedies. Some use aconitine in small and rapidly repeated dosage. The homeopaths prize bryonia. The influence of atropine in drying the mucous secretions led to its use here, with asserted advantage. These agents have been combined in a tablet in association with that potent germicide, mercuric iodide; and this has received the praise of many practitioners. If extended use is any criterion, this is especially valuable.

One more remedy must be mentioned—one that has the sanction of many generations of domestic use, and the efficacy of which may not be questioned—namely, gargling, with salt water. Persons having chronic pharyngeal troubles may use it several times a day, with advantage. Salt is itself germicidal to an appreciable degree, and its influence over the affected mucosa is curative; not very powerful, but effective, if used when the first irritation is manifested. It is a useful part of the preventive system one should institute for those liable to such attacks.

The use of cold water, general cold baths, cold sponging of the neck and face, cold foot-baths followed by brisk rubbing, all aid in reducing that special liability to cold that furnishes the exciting cause, opens the door to the invading swarm, and lowers the vital resistance so that they can effect a lodgment.

"If I were a Voice," I should utilize it in an appeal to my readers to take all these tonsillar attacks as quickly as possible, and have an effective application in the hands of their patients for such prompt use as would prevent the development of the severer and more dangerous maladies.

Before all things a clinical teacher [yes, and every doctor] must be human and sympathetic, never forgetting that he is dealing with patients who have souls as well as bodies, and not with mere "cases."

—Sir Dyce Duckworth.

GROWING ABDOMINAL PLETHORA

A stout man, years under forty, passed a group of loafers at a corner. One of them remarked, "Just see that big Dutch beer-barrel!"

The man flushed, hesitated a moment, then turned and said: "I am not German, and I never tasted beer or any liquor in my life."

The fellow retorted, "Then take in your sign."

Not having any retort ready, the fat man walked on.

Abdominal plethora, as a symptom-groupage, recognizable as such and calling for treatment, came into popular recognition with Bartholow. Previous to the appearance of this author's book, the regular textbooks had confined themselves to discussions of diseases as based on anatomical structures, with little obvious connection with symptom-groupings. I well recollect one time, after intently studying a long technical description

of some "itis," how surprised I was to come upon a discussion as to whether that condition ever really happened. The conclusion, if I recollect aright, was, that it might possibly occur in the course of some acute infectious fever or as an extension of inflammation from some neighboring structure, but that there were no clinical features by which the malady could be recognized during the life of the patient. It reminded me of the ingenious political schemes evolved by some closet-workers which by no possible chance could be utilized by any set of human beings.

When Bartholow spoke of remedies as useful in treating abdominal plethora, we recognized at once the existence of a condition evidently abnormal, troublesome to the patient and amenable to treatment. Nevertheless, the clinical student will have to search his textbooks on Practice diligently before he finds a chapter devoted to this affection. Yet, it is a malady, and one for which people long for treatment. When any man, at any age, finds his equator expanding to or beyond fifty inches, he becomes sensitive thereat; and heartily welcomes the suggestion that there is balm in Gilead.

Just what, then, are the pathologic conditions?

They are, briefly, these: First, dilatation of the splanchnic venous trunks; then the deposit of fat about the abdomen, and lastly relaxation of the connective-tissue structures in the abdominal viscera and parietes. These three factors, therefore, represent the specific points for therapeutic attack.

Dilatation of the abdominal vessels is primarily due to the excessive use of fluids; beer acting not only through its water, but in inducing paresis of the vasoconstrictor nerves. Thus, rationally, we begin by restricting the intake of water, rigorously. Drinking is much a matter of habit. Iced drinks induce unquenchable thirst. Forbid all drinks, except to allow one cup of hot tea after each meal. Then we have a direct stimulant of the splanchnic vasoconstrictors in strychnine. This fact was discovered clinically in treating snake bites in Australia. In that country, the principal, and deadly, effect of the snake venom is paralysis of the splanchnic vasoconstrictors, in consequence of which these great venous trunks dilate, the blood collecting in them until the patient dies of cerebral anemia. Here, strychnine prevents death, if enough is given to neutralize the toxin—and this means doses much larger than would kill the patient were the drug's action not neutralized by the snake

venom. Applying this knowledge, we give our obese patient all the strychnine he can take with safety.

There is, and can be, but one way of reducing fat. Let the intake be less than the output. Weigh the food and drink taken, weigh the patient every day, and clip off an ounce or two from the daily ration until the scales show that an ounce or two is clipped off the patient's weight. If this is really followed out, you may calmly disregard all the elaborate dietary tables and let your patient eat whatever sorts of food he craves. But, he must eat the food dry, not wash it down with copious draughts of liquids.

For contracting connective tissue, we have a specific in berberine. This alkaloid is one of the most widely distributed in the plant-world, and it has given reputation to many as "medicinal" or "tonic." While not a toxic principle like strychnine, nevertheless, berberine is a remedy that must not be administered rashly. Given in scruple doses for enlarged spleen, the contraction of that organ induced by it has been so powerful as actually to result in fatal rupture.

Berberine is a slow remedy, and that is what we want in the condition in question. In reducing weight, it is unwise to take off more than from one to three pounds a week; and that gives berberine time to contract the abdomen as the fat is being reabsorbed. A pound a week is enough to take off. Give a grain of berberine a day, with 1-10 grain of strychnine, increasing to 1-5 grain if results justify; and rigidly insist upon weighing the food and drink, reducing it until the patient loses a pound a week.

There you have a rational, safe, easy, and sure means of trimming the unwieldy abdomen down to esthetic proportions.

The remedies invariably recommended for abdominal plethora are, active cathartics and intestinal antiseptics. However, these are not really remedies for any essential factor of the malady, but only for the constipation and fecal toxemia that almost always are concomitant. The latter certainly demand treatment, if present, but the disease may exist without them, although not without the three factors described as essential features.

Festina lente—take your time. Reforms carried through in a hurry fall down in a hurry. Dietetic habits—reforms—are always to be instituted carefully, giving the system time to adapt itself to changed conditions. Rashness courts disaster.

Leading Articles

Further Experience with Amebic Dysentery

By J. F. ROEMER, M. D., Waukegan, Illinois

EDITORIAL NOTE.—In the August, 1913, number of "Clinical Medicine," Doctor Roemer reported a case of amebic dysentery successfully treated with emetine hydrochloride. In the article which follows he gives the later history of this patient; also, the story of another patient treated with the drug, and recounted largely by the patient himself.

IN THE August number of CLINICAL MEDICINE I reported a case of amebic dysentery and a seeming cure effected with emetine. I wish to complete the history of that young man at this time and add another case; besides adding a word of praise for emetine.

The former patient was at Palestine, Texas, and when I closed that report he was on his way to Riviera (same state) down on the gulf coast, where it is very hot and sandy. At Riviera he stayed on a ranch for a month, and kept on improving. Then he went to visit a friend who was "baching" it and here he did not have the same diet. As a consequence, a relapse set in, or, as Lyons, of New Orleans, thinks, a fresh infection was contracted; whereupon the boy went back home to Palestine.

This was in August, last year. He began with having from twelve to twenty passages a day of bloody mucus mixed with fecal matter, and, learning of this relapse, I requested him to come to me here at Waukegan. Upon his arrival, September 10, I discovered a large ulcer in the sigmoid flexure, which gave rise to the bloody mucus. On September 17, 18, 19, respectively, I administered three hypodermic injections of 1 grain, 1 1-4 grains, and 1 1-2 grains and he began to mend at once. On October 6, 7, 8, I gave three hypodermics of 1 1-4 grains each, and his condition was very much better. October 15 and 16 I gave two hypodermics of 1 1-4 grains each, when all the trouble was gone, and he began to gain in strength and in weight. *He has been going to work since November 1, is eating good, digestion perfect, sleeping good, looking well, and feeling

fine. His weight has gone back to 180 pounds (normal) and people who had never seen him before remark upon his fine appearance and ask, "Were you not sick when you came here?"

Advent of the Second Case

This cure brought me the second case, one of seven years' standing, a man who until then had been cared for by the regular navy ship-surgeon. I have let him report the history from the first until I took charge, and when he says "hospital," he means either on board ship or the navy hospital on shore, and when he "consults the doctor," it is the regular surgeon of the navy in charge for the day. To me it is interesting and instructive, and should likewise, it seems, help all of us to get a better hold of this scourge of amebic dysentery. This is the man's own statement:

"I first contracted the disease during the latter part of 1906, while serving in the United States Navy and doing service in the Philippines. I reported to the naval physician, who prescribed bismuth. This checked the stools somewhat, but not entirely. At this time, I was having not more than four or five stools per day, liquid in character, and no blood or mucus. Continued bismuth about a week and then was put to bed, given soft diet and saline irrigations every morning. This checked the disease, and in about a week I was returned to duty. Shortly after this I began having three, four, and five bowel movements per day, but did not go to the doctor. I felt somewhat tired all the time, but, aside from this and the inconvenience of going to the toilet so frequently, felt no

particular discomfort. There was no straining or griping, and no blood or mucus in the stools, which were nearly always liquid.

"I continued in this way for some three or four months before going to the doctor again. By this time I felt fatigued at all times, had lost ten pounds in weight and was weak. The doctor sent me to bed, put me on soft diet and resumed the treatment with bismuth and saline irrigations. Stools grew fewer in number almost immediately. After having been in bed four or five days I was given a dose of epsom salt every hour for six hours, when I passed eight worms, in shape and color not unlike ordinary angle- or fish-worms, but about twice as large; half an hour later I passed seven more. After this I continued in bed four or five days and then went back to work, feeling all right.

The Amebae Are Discovered in the Stools

"I continued all right for about six months and regained weight. Then I began having more than the normal number of stools. I reported to the doctor, who again put me to bed, again on soft diet, together with bismuth and the saline irrigations. Examination of feces for amebas was now made for the first time and their presence discovered. Under treatment, the stools became fewer in number shortly after going to bed. I continued in bed a week longer, then returned to duty.

"All this time I had been employed in work which required my standing on my feet from six to twelve hours each day. Now, however, I got work in an office, where I could sit down, which was much more agreeable, because during the latter attacks of dysentery standing had always been a hardship, causing a dragging, heavy feeling in the region of the lower intestine and anus. At this time, although I was having only one bowel movement per day, the saline irrigations were continued—two quarts of water every morning. I kept up the irrigations for about three months. The bowels continued regular, there were no signs of dysentery, and, so, I discontinued the irrigations.

"My condition continued normal for three or four months, when a feast of mangoes caused a relapse or else a reinfection of the disease. I did not report to the doctor for a month, by which time I was so weak and run down that medical attention became a necessity. I was so weak I could hardly walk, always tired, passed considerable blood and mucus, and was having from eight to ten stools per day. I was put to bed

and on soft diet as before, (no medicine or irrigations), which checked the number of stools. After a week in bed I felt much better and had only from two to four movements per day.

"I left the Philippines and returned to my home in South Dakota, arriving there November 24, 1908. I had been told by the doctors that the change in climate from the Philippines to the Dakotas would result in a cure. This, however, did not prove to be the case. The continual tired feeling did disappear to a large extent, but the bowel movements continued to be from four to eight per day, soft, and generally with blood and mucus in them. I consulted a civilian physician there, who recommended a diet consisting of broiled meats, coarse bread, very little vegetables, and no fruit except bananas. This diet did nothing toward relieving my condition.

Hospital Treatment Does no Good

"I went to Newport, Rhode Island, and continued for a year just about the same. Then I consulted a doctor, but while he was conducting daily microscopical fecal examinations to determine whether or not amebæ were present I was sent to Norfolk, Virginia. There I consulted another doctor, as by this time I was beginning to grow weak again. This doctor advised my going to the hospital, but this was not convenient for me at that time. I continued in this weakened condition, getting worse all the time, for two months. Then I started for the West Indies, but the second day out I had to go to bed. I remained in bed until my return to the States, two weeks later, and then went to the hospital. Treatment there: bed, soft diet, bismuth, tonic. Examination for amebæ negative.

"Bismuth tended to stop the bowels somewhat, but brought on severe frontal headaches; which were relieved by purges and irrigations. After two weeks in bed I was allowed to get up and was considered as slowly convalescing. The soft diet was the only treatment I received. I had from four to eight passages per day, and, as I had nothing at all to do, was not bothered by the feeling of fatigue which before had existed. In this way I continued for several months, at the end of which time I was virtually no better, no worse, than when I entered the hospital.

"Then I was put to bed in a private room and four nurses were assigned to me, one of whom was awake and with me at all times. I was given nothing to eat or drink except

4 ounces of milk every two hours during the day, and in addition had one extremity rubbed every hour with olive-oil. I was not allowed to move from the bed for any purpose whatever, was not allowed to sit up in bed, nor to smoke nor read. My wife was allowed to see me only three times a week, one hour each time. No one but my nurse was allowed in my room.

"This treatment effectively stopped the excessive bowel movements. The first day in there I had four, the second day one, the third day none, and none after that for seven days. On the night of the ninth day, in the room, I tried many times to pass a stool, but was unsuccessful, as the feces were too hard to allow passage.

A Fecal Mass Removed

"On the morning of the tenth day, I obtained a jar of vaseline and, greasing my fingers, determined to remove the fecal matter, if possible. After several attempts, I succeeded in working out a lump the size of my fist, which, for curiosity, I attempted to break into pieces. It was quite impossible to do so. The removal of this lump allowed more fecal matter to come down into the rectum, but it would not evacuate. I resorted to the same artificial means, however, and soon had passed three or four pounds and this was literally as hard as rocks. I at once felt much better and in about two hours passed a normal stool.

"After this I was given soft diet for a few days and then was given anything to eat that I asked for. Stools now were normal. A Wassermann test taken at this time was negative. I continued in the hospital some two weeks after this, getting better all the time and having perfectly normal stools. Then I was given a bottle of tonic to take and sent to duty. I continued in excellent health for one year, eating whatever I wanted and regaining some weight.

"At the end of one year I ate a great quantity of canteloupes one day and soon after began having a diarrhea. I continued having four to five soft stools per day. I tried dieting and irrigations with saline solution, which tended to check the stools to some extent. This continued so for six months. No particular ill effects were noticeable at this time, except perhaps a little weakness and the extreme inconvenience of being obliged to go to stool four, five and six times daily.

"I went to Norfolk, Virginia, in October, 1912. Shortly after arrival there bowel

movements increased and I felt tired all the time and had pains in the lower bowel with each movement; I would awaken in the morning just as tired as when I went to bed; could hardly manage to walk to and from work, a distance of half a mile, and invariably rested during the trip. A dose of castor-oil taken at night, during this period, would tend to lessen the bowel movements the following day or two.

"Every evening as soon as I arrived home I went immediately to bed and stayed there till time to go to work the following morning; all my Saturday afternoons and Sundays were spent in bed. Walking was agony and standing still was positive torture; while standing I felt as if my intestines were going to drop out and my rectum felt as if a heavy weight were suspended from it. Stools increased to ten to twelve per day. I passed quantities of blood and mucus, the blood invariably following the fecal matter, never preceding it, proving unquestionably the presence of an ulcer, and disproving the supposition that the blood could have come from piles, or hemorrhoids.

"I went to Annapolis, Maryland, and went to the hospital. Treatment: bed, soft diet, irrigations with two quarts of argyrol solution. The latter was made by putting 4 ounces of a 25-percent argyrol solution into 2 quarts of water. Irrigations were given before breakfast. In three days, bowel movements had decreased, from ten to twelve per day, to now two. After that for two weeks, I had only one movement per day. After one week in the hospital, I was given a tonic of iron, quinine, and strychnine. In two weeks after admittance to hospital, I was discharged, feeling fine and bowels in perfect order.

"One week later, I was back in exactly the same condition as before—same excessive number of stools, same feeling of lassitude, same blood and mucus.

Poor Health Continues in Spite of Treatment

"I returned to Norfolk, Virginia, a week later. Continued in same poor health. Went to Newport, Rhode Island, and to the hospital. Treatment there: liquid diet, bismuth. Result: severe frontal headaches. Bismuth discontinued; headaches relieved by soap and water irrigations and seidlitz powders. New treatment: 15 grains of ipecac three times a day for two days. Result: vomit after every dose. Ipecac discontinued. New treatment: bed, saline irrigations every morning, soft diet. Stools began to lessen in number. Tonic of iron, quinine, and strychnine.

nine. Examinations for amebæ negative.

"After a week in bed I was allowed to get up and walk around the ward. Two to three stools daily. Nothing to do but rest, and began to feel much better, but by no means robust. Continued in hospital two months, then came to Chicago, Illinois. I began having four to five stools daily. Consulted the Naval doctor; bismuth and liquid vaseline; headaches; bismuth discontinued. To bed for a week nothing but milk, dry toast and zwieback for nourishment; no medicine; no irrigations; no better.

"Then it was that I consulted Dr. J. F. Roemer, of Waukegan, Illinois, which was on December 6, 1913."

The patient's story ends at this point, when he first came under my care. I at once ordered a fresh supply of emetine hydrochloride, and when it came to hand, December 8, I gave the patient a generous supply of the 1-8-grain tablets, with instructions to take one every four hours, four times a day; telling him to eat anything and everything he liked. I also ordered 1 dozen ampules of emetine, 1-2 grain each, for hypodermic use.

First injection, December 13: no nausea.

Second injection, December 14: no nausea.

After that I gave an injection every four days until I had given eight in all, or a total of 4 grains of the drug.

The result was surprising. In six days there was no more blood or mucus in the passages, in ten days he had only one stool each day, and in two weeks the stools began to take form, and I believe I could have stopped then with the treatment. But both the patient and his wife said he had been cured so often, only to relapse, that he would rather take more of the remedy and risk taking too much, rather than take not enough

and have to do it all over again. By Christmas, the stools were formed, solid, and the patient was feeling fine.

He had told no one of what he was doing, for several reasons, but soon his fellow workers were saying, "Why! W., what are you doing? You are looking so much better."

At Christmas he went home on a week's visit. He ate everything, and when he came back he met one of the surgeons who had treated him in November, and his first salutation (January 3) was: "Why, boy, what you been doin'? You look so much better." The noncommittal reply was: "Oh, just took a trip to the country and got some fresh air."

To the patient and myself, what has been the most gratifying is, that his color is coming back and tone to all the muscles, the ability to eat and sleep, and the fact that the improvement was so marked that those who did not know he was being treated could, and did, notice the change and commented on it. All this was the very best of evidence that he was being helped.

Examination showed an ulcer as big as a half-dollar coin in the middle of sigmoid flexure, from which the mucus came.

[Since the preceding was put in type, Doctor Roemer has reported another recurrence in case one. The patient is again on the emetine treatment and is improving. The possibility of such recurrences suggests the advisability of repeating the course of injections at occasional intervals, in order to forestall and prevent recurrence; also the desirability of colonic irrigation with quinine or silver-nitrate solutions, to kill any remaining amebæ, thereby preventing reinfection.—Ed.]

THE ACID TEST

BY STRICKLAND GILLILAN

When you've written something clever
(From that standard of your own)
Quite the brightest thing that ever
To the waiting world was thrown,
Just reserve your biased judgment
For a moment. Like as not
When you've read it to some person
You will change the thing a lot.

Go and read it to a "bonehead"
Who is stupid as an owl;
Some much-thicker-than-your-own head;
Then, when you expect a howl
Of approval, far more likely
He'll be puzzled o'er the plot.
When you've read it to some person
You will change the thing a lot.

Like as not, while you are reading,
It will seem less clear to you
Than when you, the rest unheeding,
Made it clear as skies of blue
To yourself who knew beforehand
Its full import, to a dot.
Just you read it to somebody,
And you'll fix it up a lot!

Preserving Pathological Specimens

The Description of a Simple Method

By C. F. LYNCH, M. D., Terre Haute, Indiana

WHILE visiting one of the large medical colleges in the city of Philadelphia last summer I was much impressed by the remark of the head of the pathological department that he was sorely pressed for room where to store his museum specimens; and anyone who has had any experience in managing a pathological laboratory knows with what rapidity these preparations, preserved by the customary methods and in various-sized jars, take up space and necessitate frequent enlargements of the room allotted.

Furthermore, those who have used specimens of this kind for teaching purposes know how inconvenient and unsatisfactory are the results obtained with the use of these large jars for demonstration purposes. Indeed, unsatisfactory, and bunglesome is such demonstration that comparatively few exhibitions are made, and, as a result, these specimens, laboriously and expensively provided are of little practical value except as an impressive display to prospective students and casual visitors.

Now, however, Dr. Enos Day, of the United States government pathological laboratory at Chicago, has worked out an improved method of mounting pathological museum specimens which in many ways promises to overcome the objectionable features of the older methods, while at the same time providing specimens convenient to handle for classroom demonstrations.

Briefly, Doctor Day's method consists in mounting the pathological tissues, under large-sized watch-glasses, in the familiar Kaiserling solutions and cementing the cover-glasses to a plate-glass base by means of asphaltum. This method was described by Doctor Day to the members of the American Veterinary Association at their last meeting in New York in September of last year, and since that time I have had opportunity to try it out in my own work and find it so highly satisfactory that I feel justified in presenting it to the readers of CLINICAL MEDICINE.

The process is so exceedingly simple that any general practitioner who may desire to preserve some of his unusual specimens, but who has been deterred from doing so by the unwieldy appearance of specimens preserved by the usual methods, can adopt it. By

means of this improved procedure it is possible for any physician or hospital interne to put up a large number of specimens that can be filed away in a very small space, while at all times they are convenient for display or demonstration purposes.

The Substitute for Glass Jars

The watchglasses chosen for this work should be sufficiently large to admit specimens of average size. I have found those of 5- and 6-inch diameter the most practical, although those measuring but 4 inches prove convenient for smaller specimens, for example, appendix, ovary, and lymph-glands. These glasses can be obtained from any chemical-supply house and are very reasonable in price, running from \$1 per dozen for the 4-inch size to about \$3 per dozen for the larger ones. By some houses glasses measuring as much as 8 inches in diameter are supplied; still, for most work the 6-inch glass will be found sufficiently large.

Plateglass bases can be cut at any local hardware store or else be secured from the same source as the watchglasses. These plateglass squares should be about two inches larger than the cover glasses. That is to say, for a 4-inch watchglass, for instance, a 6-inch plateglass base should be employed; for a 6-inch watchglass, an 8-inch plateglass, and so on.

As received from the supply houses, the watchglasses usually have a rounded edge, and, consequently, this must be ground down perfectly flat and level. This can readily be done by sprinkling emery dust on a piece of plain plateglass, moistening with water (or preferably with oil) so as to make an easy-working paste, and then grinding the watchglass steadily and evenly until its edge is absolutely level and the face of the ground surface equals the thickness of the glass. When this is accomplished (which takes only about five minutes), the meniscus will adhere so tightly to the surface of the plateglass as to be water-tight. When large numbers of these glasses are required, then by a little ingenuity a grinding-plate can be devised that may be revolved by means of hand-power or an electric motor. When the grinding is completed all the watchglasses and plateglass

bases should be thoroughly cleaned, dried, and stored away ready for use.

The Necessary Solutions, And How Used

The immersion fluids for preparing the specimens are what are known as the Kaiserling solutions, of which there are two, number 1 being that for fixing purposes and number 2 for final preservation. These two fluids possess a decided advantage over all others in use, in that they not only fix and preserve the tissues, but in addition maintain their natural colors. This is largely due to the presence of nitrate and acetate of potassium, the first of which has long been in use for pickling meats.

While the formulas for these fluids may be found in many recent works on pathology, I will reproduce them here.

Kaiserling Fluid No. 1 (Fixing)

Potassium nitrate.....	Gm.	15
Potassium acetate.....	Gm.	30
Formalin.....	Cc.	200
Water.....	Cc.	1000

Kaiserling Fluid No. 2 (Preserving)

Potassium acetate.....	Gm.	100
Glycerine.....	Gm.	200
Water.....	Cc.	1000

The method of handling the tissues is very simple. To begin with, the fresh specimen is carefully washed in water for a few minutes, to remove all blood, dirt, and other extraneous matter, then is placed in a jar or other vessel of sufficient size and covered with the No. 1 fluid. After twenty-four hours the fluid is poured off and replaced by a fresh supply, and this may be left on for from one day to one week, depending upon the size of the specimen; small ones hardening in a few hours, while larger ones require more time. It is well to fasten the specimen to some flat object, such as a piece of glass or wood, before immersing it in the fluid, in order to prevent shriveling and the assuming of undesirable shapes.

After being thoroughly hardened, the tissues are removed from the No. 1 fluid, washed in water for a few minutes and then treated with alcohol of successively greater strengths. Beginning with alcohol of 20 percent, the specimen is covered with this for one or two hours; then it is taken out and covered with 50 percent alcohol for one to two hours more; then proceed the same way with 80 percent alcohol for the same length of time; and, finally, immerse in 95-percent alcohol for only one hour. However, I find I get nearly equally good results by transferring the specimen direct from fluid No. 1 into

80-percent alcohol, leaving there from one to six hours, and then soaking in 95-percent alcohol for one to two hours. Doctor Day uses first 60-percent and then 95-percent alcohol.

The object of these alcohol baths is, to restore the color which has partially faded out in the No. 1 solution, and the specimens must be watched in this step, for if left too long in the alcohol the color, after having been fully restored, begins to disappear again.

From the alcohol, the specimen is transferred to solution No. 2, where it is allowed to remain for a day or two; it then is ready for mounting.

The Process of Mounting

After the specimen has been trimmed to make it fit the watchglass, it is placed in position in the glass and the plateglass base put on, leaving a small margin of the watchglass protruding beyond one of the margins. Through the lip thus formed, the preserving fluid (to which phenol may be added up to 1 percent) is poured until the watchglass is completely filled. By a quick motion, the watchglass is now pulled over toward the center of the plateglass, whereby all air is excluded. The fluid should be poured in to the point of overflowing, so as to exclude air as completely as possible.

The contrivance is now stood up on edge and allowed to remain for a few hours, in order that any air bubbles present may have a chance to rise to the top. When ready, this accumulated air is removed by sliding the meniscus to the edge of the plateglass and adding more fluid to force out the air. This procedure is repeated as often as any air continues to collect.

If the watchglasses are properly ground, they will adhere so firmly to the plateglass that there will be no danger in placing them in the perpendicular position, no fluid escaping, nor will the glass drop off.

After the air has all been removed, the watchglass is cemented to the plateglass base by means of asphaltum. The asphaltum is heated, in a suitable vessel, over a Bunsen flame until it is about 250° F. and then applied quite liberally around the joint, allowing it to extend about half an inch up the watchglass and the same on the base. Before applying the asphaltum, the glass must be dried and all dirt and grease that may have accumulated during the process of mounting carefully removed.

After the asphaltum has dried, the mounts may be enhanced in appearance by enclosing

them in suitable cardboard cases and finishing with leatherette bindings. However, for museum purposes and class-room demonstrations this hardly is necessary.

Doctor Day in his work subjects the tissues to reduced pressure, equal to about 26 mm. of mercury, for one-half to one hour before mounting, in order to remove any remaining alcohol, thus preventing after-fading of the specimens. In laboratories this treatment is feasible; however, for the general practitioner this is inconvenient and may well be dispensed with, the results being reasonably good.

All pathological specimens tend to fade, in even the Kaiserling solution if exposed to light and sunshine, and, so, this work should

be carried on in a room somewhat darkened and the specimens be stored in a dark place.

While, as already stated, the use of the Kaiserling fluids is well known to all workers in pathology, to Doctor Day belongs the credit of developing this improved method of mounting. As for this contribution, I feel certain that there are many of the readers of *CLINICAL MEDICINE* who have often felt the need of a convenient, inexpensive, and neat method of preserving their pathological tissues. The method here described is pre-eminently suited to the busy practitioner and is so simple that one can not fail with it. The chemical agents involved are inexpensive, the solutions are easily prepared, and the entire expense is trifling.

Urethral Syphilitic Infection

With the Report of a Case

By WILLIAM J. ROBINSON, M. D., New York City

Chief of the Department of Genitourinary Diseases and Dermatology, Bronx Hospital and Dispensary; Editor, "American Journal of Urology," and "Critic and Guide;" Author of "Treatment of Sexual Impotence and Other Disorders," "Never-Told Tales," etc.

THE writer has, on several occasions, called the attention of the profession to the fact that an initial specific lesion—a hard chancre—in the urethral canal is much more frequent than is commonly supposed, that its presence is often overlooked, that either no diagnosis is made or it is maldiagnosed as gonorrhea, and that this failure to diagnose correctly and promptly often leads, as is but natural, to disastrous results.

The following case is worth reporting, for more than one reason.

X. X., thirty-five years old, druggist by profession, single; has been leading a rather loose life, indulging excessively and promiscuously. Had his first gonorrhea at the age of seventeen, and since then has had more relapses or fresh attacks than he can remember—probably fifteen or twenty. However, he ceased to pay much attention to them, as he had learned to "cure" his gonorrhea quickly without any physician's aid. At the first appearance of a discharge, he would take some santal-oil capsules, use an injection of potassium permanganate, "finish up" with zinc sulphate—and in two or three weeks he would be well. Only in the more obstinate attacks he would consult one or another of the physician friends who were in the habit of visiting his drugstore, getting their supplies from him (more or less complimentary) or play-

ing a game of cards in the store backroom—the so-called laboratory—and who never charged him for advice or treatment. He said this with some pride.

Ignorant And Mistaken Treatment

On January 13 of last year he began to notice some difficulty in urination; he felt as if the stream had to pass some obstacle. Two or three days later there was also some burning upon urination, which sensation gradually increased. A rather profuse discharge also made its appearance. He at once began to use potassium permanganate injections, and, although the injection was very painful, he persisted. There was no diminution in the discharge; large doses of oil of santal, however, diminished the *ardor urinae* and made the act of micturition tolerable. He also tried copaiba and cubebs.

In about two weeks, he consulted one of his general-practitioner friends, who looked at his urethra and prescribed an argyrol injection. The result was *nil*, and he consulted another physician. For six weeks he kept on using different antibleorrhagics and injections for his gonorrhea, but the condition was not only not improving, but was getting worse. His urinary stream was getting smaller and smaller. He consulted yet another physician. This one attempted to pass

a sound (which caused severe pain and hemorrhage), declared he had a stricture, and with that dismissed him.

The patient thereupon came to me. I listened to his history, looked at his body, felt his urethra, his axillary, inguinal and cubital glands, and told him—not over gently—that it was not gonorrhea for which he needed treatment, but syphilis. He might or might not also be suffering from a gonorrheal urethritis, but about his being the victim of syphilis in an active stage, perhaps in a virulent form, there could be no question.

The rash on the man's body was unmistakable. I called his attention to it, and asked him whether this did not make him or his physician suspicious. No, he always suffered from pimples (acne); he did speak about it to one of the doctors, but the latter said that the eruption was probably due to the cobaiba, cubebs, and santal-oil that he was taking.

The Symptoms Characteristic

Naturally, the man objected to the diagnosis of syphilis and truculently asked whether it was not possible that I was mistaken. I told him that I was not in the habit of declaring emphatically that a patient was suffering from syphilis unless the diagnosis was absolutely certain; if there were one chance in a hundred of a mistake, I should say "*Probably syphilis.*" But in his instance there was no room for doubt.

Further examination disclosed extensive condylomata lata and acuminata (which the patient had taken for piles), besides numberless mucous patches in the mouth, the pharynx, and on the tonsils. He was aware, he said, that his throat was sore, but, as he had frequently suffered, in the winter particularly, from sore throat, he paid no attention to it. The patient was an excessive smoker and, not knowing the nature of his trouble, he went on smoking in spite of his mucous patches. The axillary glands were considerably enlarged, but the inguinal glands were only slightly swollen. The lack of inguinal adenopathy is a phenomenon which we observe not infrequently in chancre situated within the urethra.

I told the patient that he was a danger to everybody with whom he came in contact, to every customer, to his relatives, to the community at large, and that he must at once subject himself to vigorous and persistent treatment; that his uvula was ulcerated and was in danger of dropping off unless vigorous treatment was instituted immediately.

Even after these emphatic declarations the patient was not quite convinced. The mind refuses as long as possible to believe things which are painful. He asked me whether I would make a Wassermann test, just to make sure. I said emphatically, No. To institute a Wassermann test would mean that I was not absolutely certain of my diagnosis, and this was not the case in his instance.

The man then went to another physician, who had a Wassermann test made, and only when that resulted positive (+++++) did he return for treatment. And he was a very meek patient then. His uvula in the meantime had ulcerated through on one side, and, as it interfered with his speech and swallowing, I clipped it off.

Treatment

I started at once active treatment: gave him a full dose of salvarsan, followed by injections of mercury every other day. There seemed to be indications of softening of the hard palate, and, as I feared ulceration, I gave the mercury (alternating the salicylate, oxycyanide, and salicyl-arsinate; for I believe that in desperate cases we get better results by frequently changing the salt of mercury) in maximum doses. The throat and mouth were sprayed with a 1:5000 mercuric-chloride solution, and, besides, antiseptic formaldehyde-generating tablets were ordered to be slowly dissolved every hour. For the condylomata, a powder of equal parts of resorcinol and calomel was prescribed (a remarkably efficient application in all venereal warts), as follows:

Resorcinol drs. 2
Hydrargyri chloridi mitis drs. 2
Misce et fiat pulvis subtilis. Signa: Apply externally.

For the urethra, I ordered suppositories of unguentum hydrargyri (0.05) and oleum theobromatis (0.8) as shown:

Unguenti hydrargyri U. S. P. . . Gm. 0.05
Olei theobromatis Gm. 0.8
Misce et fiat suppositorium urethrale No. 1.
Dentur tales doses No. XII. Signa: Insert one three times a day.

The effect of the treatment was immediate. I have often said, if the results of treatment were as prompt, as positive, as clearly apparent in other diseases as they are in syphilis, we should have no therapeutic nihilists, the antidrug quacks would not be deluding the ignorant and noncritical public with their false and sophistical statements, and doctors would not form the subject of satire in humorous and would-be humorous magazines. The patient is, of course, still under treat-

ment, but his Wassermann reaction, taken every month, shows +, —, or + —.

The fact that a chancre may occur within the urethra should be strongly impressed upon the physician's mind. It would save

him humiliating and dangerous errors; it would save the patient valuable time. One month saved in the beginning means the saving of a year afterward.

12 Mt. Morris Pk. W.

Refraction for the General Practitioner*

By THOMAS G. ATKINSON, M. D., L. R. C. P. (London), Chicago, Illinois

Professor of Neurology, Chicago College of Medicine and Surgery; Author of "Essentials of Refraction"

THE eye is a compound spherical instrument, formed of the segments of two hollow spheres, the smaller and more convex of which is fitted into the larger and less convex, as a crystal is set into a watch-case. The larger segment is called the sclera; the smaller, the cornea. Only the latter takes any part in refracting the light which enters the eye.

The iris, which hangs between the anterior and posterior chambers, performs precisely the same office as the shutter of a camera; that is, it regulates, by its contraction and relaxation, the amount of light that enters the eye and falls upon the retina; thus determining the intensity and the clearness of the image. The crystalline lens is a double-convex lens, the posterior surface of which is more convex than its anterior, giving it the effect of convex refraction; thereby helping to bring the rays of light to a focus on the retina. Under accommodation, as we shall see presently, the lens becomes still more convex, and, so, increases its refractive power.

The humors of the eye—the aqueous and the vitreous—being slightly denser than air, assist in determining the degree of refraction, i. e., of bending toward the perpendicular, which the rays of light undergo upon entering the cornea and upon entering and emerging from the lens. The ciliary muscle, by its contraction, causes the lens to alter its shape and present a more convex surface to the light-rays, and thus increase the refractive power of the eye. We shall have more to say upon this point under "Accommodation."

The Role of the Retina

The retina plays the part of the sensitive plate of the camera. The focused rays of light, falling upon the sensitive nerve-endings in the retina, stimulate the rods and cones in

such a fashion that the net effect upon the brain is the recognition of an image. Since this plane of focusing is beyond the spherical center of the refracting system, the principal rays (which are radii of that system) have crossed by the time the incidental rays are focused; hence, the image is always a crossed one.

The yellow spot is a small vascular area, in the optical center of the retina, which is the center of the eye's focussing system. In the center of the yellow spot is still another spot, called the fovea centralis, which is the most sensitive point in the yellow spot. It is the yellow spot that is directed toward an object when we fix our vision upon it. In fact, it is only the part of the visual image which falls upon this yellow spot of which the mind is deliberately conscious.

There is a slight protuberance upon the retina, about an eighth of an inch to the inner side of the yellow spot, which marks the place where the optic nerve enters the retina. It is devoid of sensibility, and, therefore, is known as the blind spot. Technically, it is called the disc.

The Axes of the Eye

For optical purposes, we draw certain imaginary lines through the eyeball in various directions, which are known as axes of the eye. Those of greatest importance from a refractive standpoint are the horizontal axes. Since, as I have said, the eye consists of two segments of different-sized spheres, there are, of course, two spherical systems for which to estimate these axes; but, as the horizontal axes of the two systems coincide, they are regarded as identical, and together they form the principal axis of the refractive system. Various points along this principal axis correspond to certain optical measurements and are the cardinal points of the eye.

There really are six of these cardinal points—three for each system—but we average their respective distances and regard them as

*The illustrations used in this article are taken from Doctor Atkinson's "Essentials of Refraction," published by G. P. Engelhard & Co., Chicago. This excellent little book should be in the hands of every person interested in work of this kind. Price \$1.25.

only three: (1) *the principal point*, situated 2 mm. behind the cornea, which marks the mean refractive curvature of the cornea; (2) *the nodal point*, about 7 mm. behind the cornea,

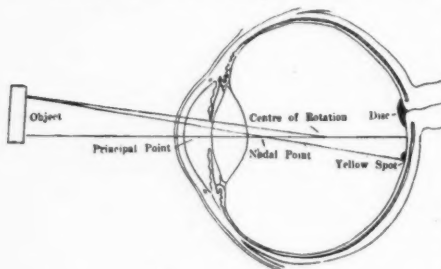


Fig. 1. Showing the principal points of the eye.

which is the spherical center of the refracting system, where all the refracted rays meet and cross; and (3) *the principal focal point*, where the axis cuts the retina, and where, in the normal eye, the incidental rays are reunited or focused on their principal rays.

Rays passing through the nodal point are all "rays of direction," which enter the cornea at right angles to its surface and are not refracted. The situation of the nodal point about 7 mm. behind the cornea holds good only for normal eyes. In eyes whose refraction is abnormal, the point is further forward or further back, as the case may be.

The Optical Axis

There remains one other axis to be mentioned, namely, the optical axis, an imaginary

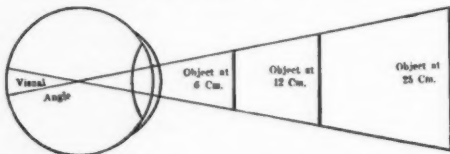


Fig. 2. Illustrating the necessity for a larger dimension of the object the farther away it is, in order to conform to the visual angle.

line drawn through the center of the cornea and the nodal point and cutting the retina just to the inner side of the yellow spot. It is practically identical with the principal axis.

The visual axis is not really an axis of the eye at all, but a movable axis of vision. It is an imaginary line, drawn from the object looked at, through the nodal point, falling, in a normal eye, on the yellow spot. The visual angle is one made by two lines, drawn from the extreme boundaries of the object looked at, through the nodal point. The

minimum size of this angle is 5 minutes. That is to say, two luminous points separated by an angle of less than 5 minutes are perceived by the brain as only one luminous point. This minimal visual angle is made use of, as we presently shall see, in measuring refraction. Another angle of importance in refraction is the angle made by the optic and the visual axes at the nodal point, which is called the angle alpha.

Accommodation

When none of its accommodation is in force, the eye is said to be at rest, and, in a normal eye at rest, parallel rays, that is, those which originate 6 meters or more away, are exactly focused upon the retina, so that objects at 6 meters' distance or more, so far as refraction is concerned, are clearly seen. It is apparent that under the same conditions,

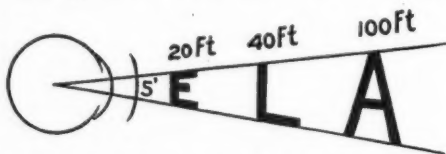


Fig. 3. Illustrates the construction of the test type to conform to the visual angle at a given distance. This angle must not be less than 1°.

divergent rays, or rays originating from a point within 6 meters, do not focus upon the retina, but are carried beyond and focus behind it. Hence, objects at less than 6 meters' distance are not clearly seen by the eye at rest.

To enable the eye to focus such divergent rays upon the retina and to see near objects clearly, an increase in the refractive power of the eye is effected by means of a change in the shape of the lens, brought about by a contraction of the ciliary muscle.

There are two theories as to just what are the detailed steps by which this change is brought about. The Helmholtz theory holds that the contracted ciliary muscle draws forward the choroid, freeing the suspensory ligament of the lens, and allowing the lens to assume passively a more convex shape.

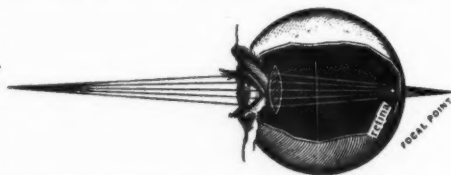


Fig. 4. Illustrates how divergent (finite) rays entering the normal eye at rest are focused back of the retina.

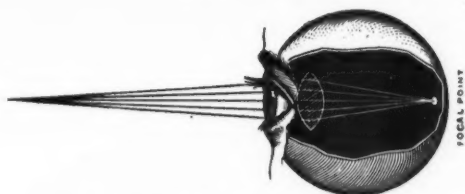


Fig. 5. Illustrates how the eye accommodates itself to focus divergent rays on the retina. Note the increased convexity of the lens (produced by contraction of the ciliary muscle).

Tschiering's theory asserts that the ciliary actually compresses the lens into a more convex form.

Whichever of these theories be correct, it is certain that the contraction of the ciliary does make the lens more convex and thus increases the dioptrism of the eye. And this is known as accommodation.

The Far Point and the Near Point

The point from which rays of light will focus upon the retina of an eye at rest is called its far point. In the normal eye, this point is infinity, or, 6 meters and beyond. The nearest point from which rays will focus upon the retina of an eye whose ciliary muscle is exerted to its fullest extent is called its near point. This point, in normal eyes, averages about 25 cm. The distance between the near and the far point is called the eye's range of accommodation, and the muscular and nervous energy required to change the eye from its far to its near vision is called its amplitude of accommodation. The amount of accommodation which one eye can exert when the other is excluded from vision is called absolute accommodation; the amount possible to both eyes together is called binocular accommodation. The latter is a little more than the former.

What the Convex Lens Does

If we hold before an eye, when it is accommodating for its near point, a convex, or plus lens, the accommodative effort of the eye will be spared to that extent. It is evident,

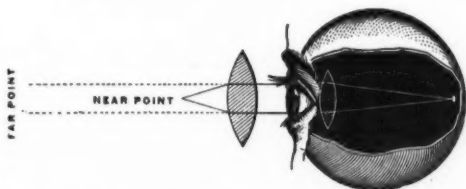


Fig. 6. Illustrating how a convex lens, which renders rays from the near point equivalent to those from the far point, focusing them on the retina, is the measure of the accommodation of the eye.

therefore, that we could find a plus-lens that would spare the eye all of its effort, taking the place of the accommodation and making rays of light from the near point as if they came from the far point. Such a lens would be the measure of the amplitude of accommodation; and this, in fact, is the way in which amplitude of accommodation is expressed. Conversely, the distance of the eye from its near point is the focal length of the convex lens whose dioptric strength corresponds to the amplitude of accommodation.

The amplitude of accommodation in the normal eye decreases as age advances, because the capsule of the lens becomes less and less elastic, until finally, if the person live long enough, the power of accommodation becomes *nil*.

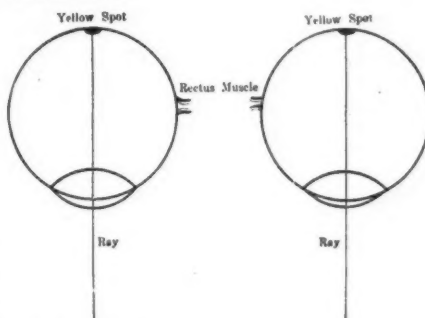


Fig. 7. Illustrates how the eyes at rest have their yellow spots adjusted for parallel rays and need no convergence.

Following are the average amplitudes of accommodation, expressed in dioptrism, at various ages:

10 years.....	14 D
15 years.....	12 D
20 years.....	10 D
30 years.....	7 D
40 years.....	4.5 D
50 years.....	2.5 D
60 years.....	1 D
75 years.....	0

Convergence

Not only is it necessary for *clear* vision that the rays should be focused exactly upon the retina, but, for *single* vision, that the central rays from the object looked at should fall exactly upon the yellow spot in each eye. When the object is at infinity, that is, 6 meters or further, the rays are parallel; hence, the visual axes (see above) are properly adjusted to receive the rays when they look straight ahead, in other words, when the visual axes are parallel. But when the object is within infinity and the rays are divergent, then it is necessary to turn the yellow spots inward, so that these divergent rays

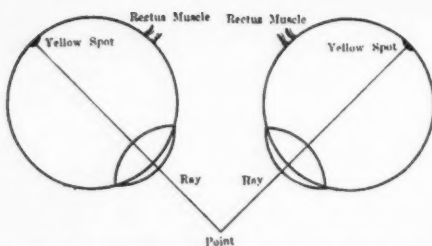


Fig. 8. Illustrates the pulling of the eyes inward (convergence) by the internal recti to direct the yellow spots toward the same near point.

may fall upon them symmetrically. This is accomplished by pulling the eyeballs inward by means of the internal recti muscles.

The angular extent of adduction and abduction capable of accomplishment by the internal and external recti, respectively, is called the range of convergence. The former is called positive convergence; the latter, negative convergence. The farthest and nearest points to which the visual axes can be directed are called, respectively, the far and the near points of convergence.

What the Prism Does

According to the laws of refraction already laid down, the optical effect of a prism is, to bend rays of light toward its base, both on entering and on emerging. Hence, a prism, placed before the eye, will bend the rays of light and focus them either to the inside or the

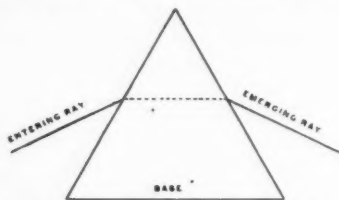


Fig. 9. Illustrates how a ray is bent toward the base both on entering and on emerging from a prism.

outside of the yellow spot, according to their bases are in or out. In order to overcome this, the eyes will have to be pulled inward or outward, as the case may be.

Prisms are numbered according to their prismatic angle, and amplitude of convergence is measured by the strongest prismatic angle with which single vision can be maintained. But it must, of course, be remembered that the actual degree of convergence performed is equal to only half the angular strength of the prism; and, since both pairs of ocular muscles always act in unison, it is divided between the two eyes. A prism of 8 degrees, therefore, produces a deviation

of 4 degrees; and of this each eye will overcome 2 degrees.

Positive (inward) convergence is measured by prisms "base out." The normal eye can overcome a total positive prismatic angle of 20 to 30 degrees. Negative (outward) con-

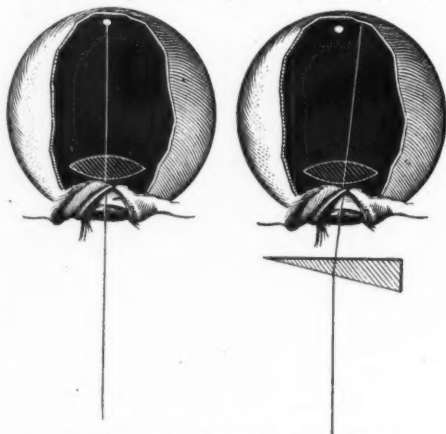


Fig. 10. Illustrates how a prism, base out, focuses a ray on the outer side of a yellow spot.

vergence is measured by prisms "base in." The normal negative capacity is from 6 to 8 degrees.

Accommodation and convergence are, in reality, two separate and distinct functions, and one may be paralyzed without impairing the other. Normally, however, one stimulates the other, and they increase and decrease in a mutual ratio.

A system of measurement of convergence has been devised to express this ratio. Thus, when accommodation is exerted for a distance of 1 meter, the amount of accommodation in force is 1 D., and the degree of convergence, expressed in terms of a metric angle, is 1. For 2 meters' distance, accommodation is

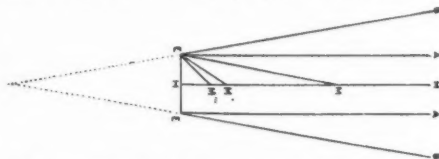


Fig. 11. Illustrates the metric angle made by various visual axes, M'E, M'E', M'E', with the central line M'H. Note that the parallel lines A'E, A'E' (eye at rest) make no angle at all, while B'E, B'E' (eyes divergent) make negative angles. ECH and E'CH which are measured by prolonging the central line and axes to meet behind the eye at C.

0.50 D., and convergence is 0.50. This mutual relation is of enormous importance in the practice of refraction, and, so, should be thoroughly understood.

(To be continued.)

Domestic Medicine in Korea

With Its Superstition and Magic

By NEWTON H. BOWMAN, M. D., Seoul, Korea

IN THIS quiet, quaint "land of the morning calm," far removed from western civilization, where one loses sight of modern habiliments and where everything and all things suggest the past, many tragedies are practiced in the name of that form of the art of healing which, in the absence of a better designation, I have called domestic medicine, in contradistinction from that practiced by native Korean doctors, a description of which has appeared in these columns under the title of "Korean Medicine and Surgery."

It is not altogether an easy matter to differentiate between the practices of the people of this country at large and those of the native doctors, but that there is a difference is an unquestionable fact. Such knowledge as the people possess of drugs and so-called remedies is based largely upon traditional superstitious beliefs that never were recorded in books, but which have been handed down from generation to generation.

These superstitious beliefs, when viewed as a whole, represent a kind of religious ritual composed of the merest trifling product of a superstitious imagination of the centuries past, out of which has grown much of the magic art practiced by the Korean people in the treatment of their sick. Therefore medicine and heathen worship have largely become indissolubly joined as applied to disease.

The Supposed Causes of Disease

The Korean believes that there is a spirit for everything, both animate and inanimate, possessed of loves and hates, hopes and fears, passions of every kind like to his own; that there are spirits of good intent and spirits of evil, who bring into his life health and prosperity, sickness and pain, or whatever good or bad, as the case may be. And this belief naturally led to the custom of employing certain ceremonial rites (devil-worship) embodying charms and incantations, conducted by a "mudang" or a "p'ansu," men recognized by the ignorant heathen population as being the official mediators between evil spirits that cause disease and their victims.

These spirits are supposed to have been incarnated in the form of people (ancestors) at some former time, but have since been disembodied by death. They inhabit the trees,

the rocks, the lakes, the rivers, the mountains, and in their wanderings in quest of a more congenial abode they have become the proverbial "hungry spirits" of Korea. They are like the disfranchized atom of nature, ever seeking a bond of union in an affinity, the preference being in the rehabilitation of a living human being, which if effected may, by causing disease, prove disastrous to the individual entertaining the host.

The Korean hears their wail in the sigh of the wind, the hoot of the owl, the crow of the cock, the howl of the dog, and he predicts an omen of good or of evil by the flight of birds, or he sees the spirits' vengeance manifested in an epileptic fit, apoplexy, insanity, erysipelas, typhoid fever, cholera, tuberculosis, leprosy, smallpox, scarlet-fever, blindness, and in a score of other inflictions.

Knowing nothing whatever of anatomy, physiology, bacteriology or pathology and believing the body to be a half-apprehended possession, Koreans have come to regard all disease as an expression of spirit invasion, and have, during the passing centuries, formulated certain practices that by the succeeding generations have been incorporated into the various customs of spirit-worship (devil-worship).

In evidence of this belief, we note the custom of feeding the "hungry spirits" at meal-time by throwing out bits of food, as an act of propitiation, else these "hungry spirits" may become offended and cause disease. Then, again, there is the custom of sacrificing food after the death of any person, at the same time requesting the spirits (every man is supposed to possess three) to go on their way and not cause further disease in the household. Then, for fear the spirits of the departed will return, for the purpose of causing disease, food is sacrificed at various intervals throughout the year, or a peculiar ceremony is conducted for the purpose of preventing disease or as a means of treatment.

There is much that could be said, and perhaps should be said, to emphasize the fact that these beliefs and prevailing customs of spirit-worship (devil-worship) now existing in Korea are largely based upon the history of infection—to the Korean unknown, but, still, observed; but, in the light of his interpreta-

tion of disease from such mysterious causes, how else could he protect himself but to meet mystery with mystery? Therefore the mysterious cures and offerings to the spirits.

The Witch and the Wizard

What we call witch and wizard are known in Korea as "mudang" and "p'ansu." These personages, a woman and a man respectively, embody in themselves every principle of heathenism, superstition, and magic art known to these people.

The witch, so it is told, acquires her powers of mediation with the spirits during some long-continued siege of illness or, as she would have you believe, by dying and having been restored by the spirits of life, health, and prosperity. Her powers are regarded as being of a persuasive nature, for "she hath a winning way" and a "familiar spirit."

The wizard, on his part, is hopelessly blind (which is a prerequisite), and his powers are of the masterly type. He commands, and the spirits are supposed to obey; if they do not, he may reprimand or punish them with his long walking-stick by whipping the air, ground or side of the house, according to the location of the spirits.

These two characters are to spirit-worship (devil-worship) what priests are to other forms of religion or what doctors are to disease; but they have no temples, monasteries or hospitals, and are content with fetishes and shrines, which are numerous throughout Korea.

The services of these mediators are employed for different purposes, such as evoking the blessings of the kindly disposed spirits, predicting omens of good or evil, for lucky days, at places for feasts, at marriages and funerals, as well as for counsel and advice in the various affairs of life or for the purpose of conducting some ceremony for the prevention or the relief of disease.

In moderately mild cases of illness, when only persuasive methods need be employed, the witch is regarded as quite sufficient for all intents and purposes, especially if the patient is a baby, a small child or possibly a woman; but in difficult cases, where the spirits are violent, as in epilepsy, cholera, smallpox, scarlet-fever, leprosy or the late stages of tuberculosis, the wizard may be called, either alone or as a consultant, because of his mandatory power over the spirits.

The method of conducting the ceremony is determined according to the nature of the disease or the person afflicted. For instance, if the offended spirit causing the disease be a

near relative, especially an elder spirit, like that of a grandfather, a more pretentious ceremony is demanded than is required for some distant relative, for instance a cousin.

Having considered the merits of the case, the character of the ceremony is decided upon by the witch or the wizard; who thereupon gives all instructions for the necessary preparation. When all is in readiness, the ceremony begins in the manner as prescribed by the customs of the country or locality. For example: In the event the witch has been called to officiate—although her confrère, the wizard, may take part, because of his extended powers over the spirits—she begins by taking a seat upon the ground and assuming a preoccupied air, as if searching the furthestmost confines of space in search of the offending spirit. Then she calls the spirits to her, and upon their proper arrival she becomes "possessed of the spirit."

She now arises, and, holding a knife about three feet long in her hand, begins to leap, dance, sling her body in a frantic manner, swing the knife about in the air and occasionally passing it between her feet as if to cut to pieces some invisible object. During this performance she announces the spirit that possesses her and informs her spellbound audience that she now speaks the wishes of the spirit, and which she repeats, saying that the spirit causing the disease makes known its grievance against the patient or the household, then stating what the recompense shall be. Often the grievance is so great that it becomes necessary to pay the witch more money before she can appease the wrath of the spirit.

When at last all requirements are duly met, the witch throws the knife. If the knife, when it falls on the ground, points toward the house, the ceremony is continued, for the evil spirit still remains. But should the knife fall with the point away from the house, then it is known that the evil spirit is going out. With a frantic leap, the witch now makes for a table on which has been placed a big bowl of rice and a bowl of sool, the latter the national beverage. She begins to drink the sool and to cram the food into her mouth with both hands and swallows it without any effort at chewing. Thus having fed the hungry outgoing spirit, the ceremony is concluded.

All the while the ceremony has been going on, the woman's able assistant or her noble confrère, the wizard, has been beating a tomtom, on a big drum, that sounds like the noise of a charivari. These ceremonies usually take place at the patient's house, al-

though they may be conducted at some shrine in the neighborhood or possibly at the house of one of these craftspeople.

The Medicines, So-called Remedies, and How Applied

There is growing all over Korea a weed that has a "soft, shrubby, finely silky-hairy stalk" and is known to the English-speaking world as the mugwort. This plant is employed to make what the Korean calls a "medicine ch'im," of which there are two kinds—the poultice and the fireball. The weed is gathered in the late summer, tied into a bundle and hung up to dry in the house until needed.

The poultice is prepared by boiling a quantity of the stalk and leaves, then placing in a cloth and wringing until the water is expressed. Then the hot pulp remaining is used as a poultice.

The fireball is made by crushing a small quantity of the stalk and rolling it between the palms of the hands until a ball about the size of a partridge egg is formed. These balls, after being set on fire, are placed over swollen limbs, joints, pit of the stomach or other portions of the body and allowed to burn until nothing is left but the ashes. In the meantime the patient is forcibly held while suffering the agonies of the demons of torment. The dried inside portion of the bark of the mulberry tree is also used in exactly the same manner and for the same purposes.

These two remedies are favorites for treating children and babies suffering from intestinal worms, malaria or fits.

In the first-named condition, that is, worms, two fireballs are applied, one on each side of the spine at its junction with the hips; in the second, one is set over the stomach, and, in the third, on the top of the head, to be repeated as often as the fits recur, which they often do, of course. This medicine-ch'im is supposed to possess certain medicinal virtues when employed in the manner described; as for the burn, that is totally disregarded.

Sesame-oil is used in Korea as a food-oil, just as olive-oil and cottonseed-oil are employed in other countries; but it is also employed as a medicine for its laxative properties and in the treatment of old sores anywhere on the body. The sore is walled around with a rim made of rice-flour dough, the surface of the sore being the bottom of the little "cup," and into this is poured boiling-hot oil. With the cooling of the oil the treatment is completed.

The mint-family, of which there are several varieties indigenous to Korea, is quite a favorite, the herbs being employed in hot decoctions for various purposes.

Ginseng is well and favorably known to the Korean as a great panacea for all ills, but the cost of it virtually prohibits its use among the poorer classes.

There are other simple herbs that are employed in the usual form of hot teas and decoctions, but they would be of no special interest in this connection.

Claws, hoofs of animals, frogs, snakes, human flesh, dried or baked rats, boiled crows, magpies, and dog meat come in for their share as remedies for disease, but for the sake of brevity I will discuss only a few.

Snakes and frogs are employed for tuberculosis of the lung or for other continued forms of illness. A live frog and snake are gathered together, allowing the snake to bite the frog, after which both are killed and put into a jar containing some yeast, rice, and water. The jar then is sealed and buried in the public road just where another crosses it and is allowed to remain exactly one hundred days, when it is taken up from underneath the ground and inspected. If there is a good "mother," such as forms on vinegar, floating on the surface of the fluid, the product is considered finished and ready for immediate use as a medicine. The "mother" only is taken, and that at one dose.

There usually is living about over the country in almost every locality what the Korean calls a snake-preparing medicine-man, who prepares this delectable medicine for sale. Shortly before the expiration of the hundred days, the manufacturer, or possibly better said the brewer, goes around over the country inquiring if there are any who are in need of the medicine. If so, the price is agreed upon, which ranges anywhere from a few yen (one yen equals fifty cents gold) to fifty. On the last day of the one hundred days, the seller and the purchaser go together to the place where the remedy is buried, in order to discover two things, namely, whether the remedy is buried at the crossroads, and whether or not there is a good "mother" in the jar when it is opened. Thus, all possibility of buying a fake remedy is avoided.

The flesh of dead human beings has been stolen and eaten, in the hope of its curing epilepsy.

A certain portion of the "mother's flesh" (afterbirth) is regarded as highly essential for the cure of any disease that a little child may have. The afterbirth of the mother usually

is dried and pieces of it are given to the child during the various intervals of sickness throughout its babyhood. It occasionally happens that for some reason or other the mother of a child has failed to keep the after-birth for her offspring, when she is led to commit the crime of stealing some other baby's inherited panacea from its mother.

During the summer months, when seasonal diseases are most prevalent, dog meat is very popular for the sick, and in days not long past there were abounding dog-meat restaurants where the Korean could go and buy a mess of dog-meat. But these conveniences are now a

thing of the past and the Korean has to kill his own dog at home. However, when a Korean does this, he generally divides with his neighbors, and by this reciprocal process dog-meat may be had in convenient quantities without expense or waste.

The regular medical profession in Korea is daily face to face with these problems, of which the outside world hears only a distant cry and, while they may appear a bit weird and gruesome, these statements are conservatively true to the subject of domestic medicine as practiced by the Korean people in Korea.

Mercuric-Chloride Poisoning*

A Report of Several Cases in Which a New Antidote Was Used

By THOMAS A. CARTER, B. S., Ph. G., M. D., Chicago, Illinois

Prof. Anatomy and Physiology Pharmacy Department, Loyola University

EDITORIAL NOTE.—Some weeks ago Doctor Carter treated a case of poisoning with corrosive sublimate, and in spite of the enormous dose the patient recovered. Reports of the case got into the newspapers—you probably read them yourselves. Of particular interest was the successful use of a new antidote. This has now been tried by Doctor Carter in nine cases, who here tells the medical profession exactly what it is and how employed.

IT MAY seem flippancy to speak of fashions along toxicological lines, but to those who have observed such things it is indeed very apparent that styles in the methods of exit from this dreary world do change—not so frequently, it may be, as other styles or fashions, but, for all that, one is justified in speaking of distinct fashions in self-destruction. Who of us, for instance, cannot remember the vogue in attempts at suicide by means of carbolic acid, and, even though the printed comments at the time gave harrowing details of the excruciating pain and distress suffered before the individual could hope for release from his real or imaginary woes, such details seemed to have little or no influence on the minds of those determined upon their mad course.

Our present-day toxicological fashion unfortunately has not even the preliminary disadvantage ascribable to phenol poisoning. It is but a comparatively short time ago that the people were regaled with the story of a Georgia banker who was so unfortunate as to swallow a bichloride of mercury tablet in place of a popular semiethical salicylic-acid preparation. A serio-comic aspect was lent to the case of that individual by highly colored stories of the alleged joy with which this unfortunate man faced his certain end.

Bold pen-pictures were drawn of the powerlessness of science in the face of this seemingly new problem in the annals of toxicology.

The unfortunate gentleman in our southern metropolis had not yet passed away before reports of similar accidents (?) or purposeful acts began to occupy the front pages of the daily press. As an interested observer, it struck me that the suggestion contained in these various news items was perhaps more powerfully poisonous than the substance with which they dealt. However that may be, there is no doubt that bichloride of mercury poisoning has presented a very intricate problem for solution.

A perusal of many of the works on toxicology published in the last decade shows how little this problem really has been studied; for one work is but the rearranged material of another, the same thing stated in different words, and all of it apparently without basis in fact. I have searched through the literature, both the continental and the contributions of our own writers, and can say that, with but very rare exceptions, most of it had better not have been written at all. Even today, with the number of cases which have been reported (at least in the popular press), we have not as yet had much light thrown upon this particular dark spot in our knowledge.

I have been able to find the record of few, if

*Read before the Chicago Medical Society, March 11, 1914

any, cases in which three or more grains of mercury bichloride has been taken in which treatment of any kind has proven adequate.

Having then become interested in this subject in the manner already stated, and after some animal-experiments which proved successful, I decided to try the treatment outlined further along in this paper at the first opportunity.

Anent Newspaper Publicity

I will digress here for a few moments to clear up some points in regard to the press notices which have appeared regarding my work:

1. I most emphatically deny that, in any manner whatever, I sought publicity. The cases in themselves were public news.

2. Once the matter had appeared in the press, I endeavored in every way possible to remove the impression that I had an absolute cure, and emphasized the point that my treatment, though comparatively harmless, was an experiment, and that I could not unqualifiedly say that I had anything more than a possible antidote for bichloride of mercury.

3. Although importuned by the press and the profession to give the details and technic of my treatment, I have refrained from so doing until such time as I should have a sufficient number of cases to present some kind of report, that the profession might judge for itself. Even now I consider my report somewhat premature. But there seems to be considerable feeling regarding this matter, so that at the request of some of my colleagues I have consented to come before you. I assure you, gentlemen, that it has been, and is, my desire to conduct my work in an ethical manner. Our worthy president, Dr. C. P. Caldwell, with whom I have consulted frequently, as well as other members of the society, will bear me out in this.

4. As to claims of priority in the use of the remedies used as antidotes for bichloride of mercury poisoning, it does not matter one whit to me whether any or all of the things I have employed have been used by others, as has been suggested to me. Manifestly it is out of the question for a man in any line of endeavor not to make use of or benefit by the work of others. Originality is not put forward as a claim; still, I may say it is not lacking in my work. The special knowledge gained by me I desire to distribute again for whatever good it may do.

Some phases of my treatment may hardly seem essential to you; however, I myself consider all of it important.

I will now proceed to give in some detail my experiences in this matter up till now.

The First Case—Recovery

Case 1.—T. W. E, age 29, chef. Patient admitted to the German American Hospital at 11:45 o'clock p. m. on January 19; discharged February 2, 1914.

The patient swallowed, with suicidal purpose, about 33 grains of bichloride of mercury, taking the first 2 tablets of 1 3-4 grains each at about 10 o'clock a. m. Later in the day he took 16 more tablets, which had first been crushed and placed in capsules; these being swallowed about 10:50 p. m. These tablets were taken with beer. The man then went to the home of a friend. I was called at 12:30 p. m.

The patient was given four eggs, and then was taken to the hospital. Upon his arrival there he vomited. He was given three more eggs, and milk, then his stomach was washed out. The antidote, as will be outlined later now was administered, with eggs and milk, every hour during the first twelve hours. No food was given after the first twelve hours. The patient passed 10 ounces of urine during the first twenty-four hours.

At 8:45 a. m., on January 20, the patient began passing feces containing small blood clots, and during the next twenty-four hours he passed a large amount of fecal matter and bright-red blood. He complained of considerable pain in the abdomen. At this time there was marked salivation. Examination of the urine at this time showed the presence of albumin and blood, but no sugar. The blood gradually disappeared from the feces and urine. The patient complained of dimness of vision and twitching of the legs and arms. There was also present a peculiar offensive odor, due, perhaps, to the mercurialization. The amount of urine voided gradually increased, the patient passing as high as 70 ounces in twenty-four hours. The symptoms gradually decreased, examination of the urine finally showed albumin absent, and the patient was discharged on the fourteenth day after taking the poison.

The Evanston Case

Case 2.—Mrs. M. F. Patient admitted to the Evanston Hospital February 5, 1914; died February 17.

The patient intentionally took Bernays' bichloride of mercury tablets, 1.45 grains to each tablet. She placed a handful of them in the mouth and quickly followed this by a glass of water. In the room were found

broken parts of 32 tablets, and, as there had been a full bottle of 100, as stated by the patient, she must have received 68 tablets, or 123 grains in all.

The woman was seen within about twenty minutes by Dr. Dwight Clark, who washed out her stomach repeatedly with large quantities of warm water, then gave her milk, and promptly sent her to the Evanston Hospital in charge of Dr. Alexander. Here she was given the whites of six eggs and more milk. Because of the intestinal pain, a hypodermic injection of morphine, 1-4 grain, and atropine 1-150 grain, was administered; also, camphorated oil was introduced subcutaneously, as the pulse was very weak and fairly rapid. She had begun to vomit at very short intervals large quantities of bright blood. The morphine was repeated as needed for the pain. At 1:30 p. m. the patient's sight began to fail and she was not able to distinguish persons about her.

At this time I was called, and I began to give her the antidote. Great difficulty was experienced in administering the medicine by mouth, as the patient was almost constantly vomiting. The drop-method by rectum was tried, but the remedy could not be retained; and then the medicine was given intravenously. At about the same time two pints of normal salt solution was given subcutaneously, deep into the tissues below the breast. To this solution was also added a solution of sodium bicarbonate, 3 drams to the pint—this latter, however, not at my suggestion. At a later period this was repeated, and, while the first solution, deeply injected, caused no irritation, the second was not introduced so deeply into the tissues, and was productive of some sloughing.

The bowels began to move soon after the administration of the antidote as suggested by me, and the dejections were very profuse, of a watery nature, involuntary; but they never contained any blood until the eleventh day of the disease. The mouth was not badly affected at any time, possibly because the patient, in taking the mercury, had placed the whole tablets in her mouth and then washed them down with a glass of water.

The anuria, which was complete and lasted for sixty-nine hours, gradually disappeared, and the amounts of urine voided slowly increased; on the sixth day about 12 ounces was passed; on the eighth day, 40 ounces; on the ninth day, 60 ounces; on the tenth day, 90 ounces. These quantities are somewhat approximate, because of a certain loss at the time of bowel movements. The albumin in the urine was very marked at the first

tests, but rapidly grew less; as did also the casts, which were present at first.

On the eleventh day, after a rather restless night, there were involuntary discharges of dark blood, followed later by repeated vomitings both of dark and bright blood. While the pulse and temperature did not indicate hemorrhage, the patient gradually became unconscious, at last passing away, but without convulsions.

As to diet, on the ninth day, when marked improvement was evident, she received ice-cream and junket in small portions. The following day she was placed on a light diet.

Still Another Case

Case 3.—Miss B. T., age 21, German, domestic.

At 8 o'clock p. m. the woman placed six or seven bichloride tablets, which she wanted to take in a vaginal douche, into a drinking glass filled with water. During the preparation of this douche a friend called her up on the telephone and asked her to come to the Hotel Vincendor, which she did. On returning to her room at the Hotel Abalon, at 5 o'clock the following morning, she felt very thirsty and took the goblet containing the mercurial solution, which was standing on the dresser beside the wash-basin, and drank from it two swallows. Feeling a burning sensation in her throat, she dropped the glass on the floor and vomited up what she had swallowed.

Very soon after, a girl friend came to her room, and she called Doctor Flynn. The latter gave her an injection, the nature of which is not known, and left orders for her to drink a large quantity of milk. At 3:30 o'clock p. m. Doctor Atkinson was called, who later summoned me.

The patient was brought to the hospital, still conscious, twelve and one-half hours after taking the mercury bichloride. No gastric lavage had been performed and no eggs were given; but this was done when the patient entered the hospital. I found her anemic, well nourished, tongue hard, and the soft palate reddened, swollen and painful; pain and burning in the throat; very much nauseated; vomited large quantity of reddish-brown fluid containing solid particles. Pulse rapid and weak.

The antidote was given intravenously one-half hour after the young woman entered the hospital, this being repeated every hour, by the mouth.

The case terminated in death.

Considerable interest is attached to the

effect of the mercury upon the elimination of urine and the reaction under my treatment. In the three cases reported it was as follows:

Elimination of Urine

Mr. E. Upon the first day 10 ounces of urine was voided. Then, day by day, the amounts, in ounces, ran as follows: 20, 49, 63, 52, 71, 70, 68, 58, 52, 50.

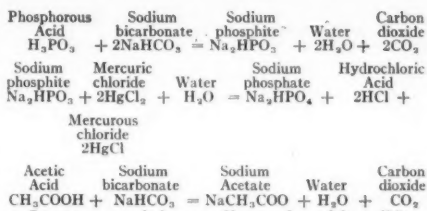
Mrs. F. There was complete anuria for sixty-nine hours. This gradually disappeared, and the amounts slowly increased until the sixth day, when she passed about 12 ounces. On the 8th, 9th, and 10th days, she voided, respectively, 40, 60, and 90 ounces.

Miss T. There was complete anuria here for eighteen hours, then she passed 5 drops. Following is the record: Feb. 15, 8:15 a. m., 5 drops; 11:50 p. m., 2 drops. Feb. 16, 8:10 a. m., 1 ounce; 9:00 p. m., 2 ounces. Feb. 17, 1 a. m., 2 ounces; 3:30 a. m., 4 ounces; 5:00 a. m., unknown (mixed with fecal matter); 11:00 p. m., unknown. Feb. 18, 6:00 a. m., 3 ounces; 4:00 a. m., unknown; 7:30 p. m., unknown; 9:35 p. m., unknown; Feb. 19, 3:00 a. m., unknown; 7:00 a. m., unknown; noon, unknown. Feb. 20, 6:15 a. m., 1 ounce; 8:00 a. m., unknown; 12:40 p. m., unknown; 1:00 p. m., unknown; 5:30 p. m., unknown. Feb. 21, 4:15 a. m., 2 ounces; 4:20 a. m., unknown; 11:40 a. m., unknown; 10:30 a. m., 4 1-2 ounces.

I will not take up your time with a record of my experiments, but will give you the latest and improved methods which I have found to be most successful in combating the deleterious effects of mercury bichloride in the blood and on the kidneys.

The Chemical Antidote Employed

At first, in treating these cases, I employed the combination of phosphorous acid and sodium bicarbonate. These react with each other and with any corrosive chloride of mercury in the stomach, as shown by the following formula:



I suggest giving sodium phosphite (Na_2HPO_3) in place of the combination of phosphorous acid (H_3PO_3) and sodium bicarbonate (NaHCO_3), to avoid the formation of carbon-dioxide gas (CO_2) in the stomach.

I also suggest and give sodium acetate (NaCH_3COO) in place of the combination of acetic acid (CH_3COOH) and sodium bicarbonate, as a diuretic and solvent.

Give 5 to 10 grains of sodium phosphite (Na_2HPO_3) for each 1 grain of mercuric chloride (HgCl_2) swallowed, to reduce the bichloride of mercury to the insoluble mercurous chloride, or calomel. Where there is doubt as to the amount of bichloride that has been ingested, keep the sodium phosphite in excess.

Give 5 grains of sodium acetate every hour with one-half glass of water, to act as a diuretic.

The patient is also given 1-2 ounce of saline laxative each morning, to assist in alvine elimination.

In conclusion, I want to say that I have treated 9 poison victims since January 19, 7 of them successfully. Unfortunately, I am not in a position to report on all these cases at present; however, at a later time I hope to give a more thorough and complete report of all cases coming under my observation, and I trust others will keep track of their cases. Furthermore, I suggest that at some later meeting we have a symposium on the treatment of poisoning with mercury bichloride. If I can be of any service to the profession in this connection, I shall be pleased to lend my efforts.

I HAVE never allowed myself to be the subject of moods. If I felt dull or ill, or if the weather was bad and other things distressed me, I made all the greater effort to cover up my own ills and smiled the more. This was acting, I admit, but in time it came to be a habit, and I count the smile habit just as much worth while as the work habit or the think habit—which, by the way, are three very good habits.—“Dr. Betterman”

Making Good in Medical Emergencies

By GEORGE H. CANDLER, M. D., Chicago, Illinois

EDITORIAL NOTE.—This paper is a further contribution to Doctor Candler's most interesting and helpful series on "Medical Emergencies," every installment of which the editor hopes every subscriber will read.

Smothering

THE victim of smothering or, as it has been called, "dry drowning," requires treatment very similar to that employed in cases of ordinary drowning. In practically every instance the nature of the suffocative agent will be apparent, and it must not be forgotten that flour or some other finely pulverized substance may have been drawn deeply into the respiratory passages. Small grains—wheat, barley, and the like—may so occlude the upper passages that tracheotomy alone will save the patient's life. Therefore, the physician should first ascertain if the heart still beats, then remove from the mouth, nares and pharynx, as rapidly and thoroughly as possible, any foreign substances obstructing these passages—pulling the tongue well forward, and examining the larynx by reflected light if possible. A small pocket mirror will serve nicely, and is nearly always obtainable. However, one of the small pocket flash-lights, costing a dollar or less, will be found very convenient for illuminating the throat.

To remove visible foreign bodies, the finger may be used as a "hook," or a pledget of absorbent cotton thrust into a cleft stick and twisted around it (don't forget the latter detail; in one instance where it was omitted the cotton came loose and caused the physician a *mauvais quart d'heure*) will serve as a probang and swab combined.

Never institute artificial respiration until you are fairly certain that the air passages are pervious. In cases of severe respiratory obstruction the facies is distinctive; while consciousness remains the intense distress of the individual is evident. The eyes are fixed, suffused and protruding, the vessels are engorged, and beads of perspiration stand out all over the skin. *Stridor* invariably distinguishes obstructive dyspnea from the respiratory failure due to cardiac, toxic, pulmonary or cerebral disease. The more marked the stridor and the deeper the cyanosis the greater the emergency. In cases of this character the pulse is rapid, irregular, and of low tension; sometimes it is only barely distinguishable.

It is not always an easy matter to decide (especially if the patient has been subjected to pressure) whether the dyspnea is due to injury or to obstruction; but if any foreign substance can be found in the mouth or nares, or can reasonably be believed to have entered the larynx, and stridor is present, then obstruction may safely be diagnosed. When dust has entered the smaller bronchi a most distressing wheezing occurs, but there are none of the disturbing symptoms which mark the case in which there is almost total occlusion of the upper respiratory tract.

The Treatment of Suffocation

The passage of a catheter through the nares, and of the finger or cotton swab into the pharynx, may cause vomiting and the expulsion of the foreign body. It is not always wise for the physician to invert the patient or to attempt forcible removal of an invisible object unless he is prepared to perform an immediate tracheotomy. Foreign bodies *inhaled* and solid substances—such as pieces of meat or false teeth—lodged in the pharynx may produce precisely the same symptoms as these described, but the latter are usually withdrawn or pushed down into the esophagus with comparative ease. If this is not immediately possible, then tracheotomy will afford relief and permit of the removal of the patient to his home or a hospital for subsequent extended treatment. A very small object lodged in the larynx may cause such urgent dyspnea that only prompt opening of the trachea will save life.

Even after the obstruction has been removed it may be necessary to institute artificial respiration. The heart continues to beat for several minutes after breathing has ceased and just so long as it does so the prospects of recovery are favorable.

In certain diseases—retropharyngeal abscess, diphtheria, and edema glottidis, for instance—the occurrence of asphyxia may threaten the patient's life. In nearly every such case the history will aid the physician in arriving at a diagnosis. In the first place, such cases are usually seen at their own homes, or at least among friends, and the

condition has come on gradually. Digital and ocular examination will, of course, reveal the causative condition.

An abscess should be opened carefully with a tenotome or bistoury, the blade of the latter being wrapped with gauze or cotton to within a quarter of an inch of its point. In edema glottidis, scarification of the congested mucosa and the application of a strong solution of adrenalin chloride will often prove most effective. Lobeline sulphate may be given hypodermatically with advantage in these cases.

Hanging or Strangling

In asphyxia from attempted hanging or strangling, the duties of the physician are fairly obvious. In nearly all such cases the rope or other constricting object has been removed before his arrival. He will, therefore, merely have to satisfy himself that no further obstacle to respiration exists, and that the trachea and vertebræ are intact, before instituting artificial respiration. This procedure should be carried out in such a place that a current of fresh air will pass over the face and chest of the patient. Strychnine or other available cardiac stimulants may be given cautiously. Experience has proven the desirability of washing out the stomach in such cases.

Inhalation of Gas

In treating a patient asphyxiated by the inhalation of poisonous gas or vapor, administer oxygen if it be obtainable. In the larger cities pulmotors or other apparatus for producing artificial respiration are available and the employment of such an appliance undoubtedly materially increases the patient's chances of recovery.

It must be remembered that under ordinary circumstances the fight for life is likely to be a long and strenuous one; in several instances of gas poisoning recovery has been accomplished only after hours of labor. The older the patient and the longer the inhalation of the noxious vapor the greater the need for vigorous measures and untiring perseverance.

Get the patient out into the open air, on a porch or at least in a room in which all the doors and windows are thrown widely open. The chest should be bared and cold water dashed thereon; the abdomen should be briskly slapped with a wet towel; but the rest of the body of the asphyxiated individual must be kept warm by the application of hot blankets, hot-water bags, and the like. The limbs should be rubbed and massaged briskly.

The tongue should always be drawn forward, and secured.

Begin artificial respiration as soon as possible and keep it up until the uselessness of further effort is apparent. Ammonia inhalations, saline transfusions and hypodermatic injections of camphorated oil may be given with decided advantage. Later, if the heart wavers, strychnine and cactoid will afford good results.

Is the Patient Dead?

Several readers of CLINICAL MEDICINE have asked that I give a clear description of the conclusive signs of death. "Just how," one physician asks, "may we know positively that the individual is dead. On one or two occasions I have thought that possibly we have relinquished our efforts at resuscitation too soon." Unfortunately, there is no single and generally accepted sign of death.

The physician who has practiced for years *knows death*, intuitively almost. There is some indescribable change which will enable him to say positively, "That man is dead," whereas, a few minutes earlier, with exactly the same conditions presenting (to the ordinary observer at least), he would have fought hard to fan back into a flame the faint spark of vitality he *knew* to remain.

In some cases, however, it is very, very difficult—practically impossible, in fact—to pass final and conclusive judgment. Especially is this the case when some perfectly healthy individual has met with an accident and those who love him refuse to believe that he has been taken away and frantically urge the physician to do something more. It is worse than useless, of course, to try to reanimate a corpse but—and here is the crucial point—*until we are quite sure that this person is dead it is our duty to continue our efforts for resuscitation*. Unless the mark of the Great Destroyer is obvious, persist in your efforts until definite and positive signs of dissolution are apparent. Also, it is well to make every reasonable effort to restore the victims of supposed sudden death. We should treat every such case as one of suspended animation. The chief causes of sudden death are aneurism, apoplexy, organic heart disease, shock, asphyxia, sunstroke, lightning stroke, contact with wires carrying high-voltage current, and poisoning. Few poisons kill instantly.

In drowning, one authority says the case may be regarded as hopeless (i. e., the individual is dead) when "the eyes are open with the pupils dilated and the conjunctivæ insensible, the countenance placid, the skin

cold throughout, frothy mucus remains around the mouth and nostrils, there is no attempt at respiration, and the heart's sound is inaudible with the ear to the chest."

Personally, I am inclined to doubt the accuracy of this statement, for, though all those signs are found, necessarily, in a dead man, they may also be present before death has occurred.

The Definite Signs of Death

The signs of death are as follows:

Absence of respiration, entire stilling of heart sounds, proven by careful use of the stethoscope—the "ear to the chest" cannot, in the nature of things, be considered satisfactory. To test the breathing, hold under the nose and before the mouth a mirror or piece of polished steel, for instance, a new razor blade. If no vapor appears thereon within three minutes life may be regarded as extinct.

A still more delicate test is to place upon the bared chest a basin of water and reflect from it an image by artificial light or sunlight. The faintest stirring of the thoracic muscles would cause deflection of the image.

The pupil fails to dilate under the application of a solution of atropine.

Blood does not flow upon the opening of a vein.

Injection of a few drops of ammonia water under the skin causes a dirty-brown stain; in life it would be red or purple.

A needle plunged into the substance of the biceps or any other muscle, and left *in situ* for thirty minutes, is withdrawn untarnished; if it oxidizes life is *not* extinct.

The fingers placed together and held before a bright light appear a dead white; in life there is a pink tint.

The end of a finger around which a tight ligature has been thrown remains white. If it becomes swollen, red, or even shows a decided pink, life may be presumed to be still present.

These tests are really all sufficient. Indeed, if neither respiration or heart beats can be detected by the trained observer it is quite safe to assume that death has occurred. However, in extraordinary cases it may be well to leave the body undisturbed, in a natural position, until the lowering temperature and oncoming rigor mortis afford the final proof of death that positively cannot be gainsaid.

(To be continued.)

Some Accuracies of Practice

The Correlation of Precise Methods of Diagnosis and Treatment

By B. G. R. WILLIAMS, M. D., Paris, Illinois

Author of "Laboratory Technic for Practitioners"

EDITORIAL NOTE.—Here is another article in Doctor Williams' interesting series, in which laboratory methods in diagnosis are made to give "pointers" for accuracy in treatment. You will find these papers very helpful and interesting.

Total Phosphates

THE absolute phosphates are increased in some diseases and reduced in others. Calculations may have considerable weight in diagnostic problems, but cannot be discussed in a communication of this kind. The so-called phosphaturias I shall pass briefly, the term being a misnomer. The presence of precipitated earthy phosphates in a single urinary sample does not indicate that the total phosphate excretion is high, but rather that the diacid sodium phosphate has been replaced in part by less soluble earthy phosphates.

True phosphaturia must be determined by quantitative estimations. True phosphaturia must be treated, inasmuch as it has been shown that phosphates are not easily excreted

by the kidneys; and especially is this true in regard to diseased kidneys, where a phosphaturia may prove very irritating, indeed. It has been suggested by von Noorden that calcium carbonate be administered along with the food, in order to precipitate soluble phosphates and decrease bowel absorption, thus preventing ultimate elimination by the kidneys. A 10-grain tablet of calcium carbonate dissolved in a pint of milk will care for the soluble phosphates.

Total Sulphates

Therapeutic indications are more frequently suggested by an increase of conjugated sulphates than by high total sulphates, while both factors are of extreme value in delicate questions of diagnosis. This being more

strictly a therapeutic article, let us look into the treatment suggested by high conjugated sulphates. These soar upward in the same conditions that raise the indican bodies. In fact, true indican is a conjugated sulphate (potassium-indoxyl sulphate).

The physician will keep in mind, therefore, that, when the laboratory-worker reports high conjugated sulphates, the same therapeutic measures which apply to indicanuria will promise equally good results here. These measures have been described in a previous communication.

Total Oxalates

I shall have considerable to say concerning oxaluria and its treatment in my next communication. High total oxalic acid in the urine may favor deposition of crystals in the urinary passages (combination with calcium) leading to irritation and hematuria; but Fuerbringer has shown that a urine may contain a large amount of oxalic acid without such a deposition. And, so, quantitative estimates are of little value even in the larger laboratories.

Certain joint pains have been laid at the door of oxalic acid. Thus, in "tomato-joint" we have, apparently, an example of an oxalic-acid diathesis. It is possible, however, that certain of these cases are not true diatheses, but merely a result of oxalic-acid retention, decreased elimination or a deposition essentially secondary to other processes and accompanied by no true increase of oxalic acid in the circulation. Our information is not complete in this regard. However, as shall be shown in the next paper, oxalic acid plays an important part in the microscopic uranalysis.

Total Uric Acid

Here again we cannot go into diagnostic problems associated with quantitative variations of the uric acid, except to touch lightly upon the so-called "diatheses."

In gout and certain hundreds of other minor disorders, uric acid has borne the blame for many years. There can be no question but that uric-acid deposition plays a part in true gout, but this part is, perhaps, secondary. The various forms of arthritis, and the like, formerly attributed to the uric-acid diathesis have been seized upon by the pathologist and, properly, placed under other heads, notably under the infectious toxemias.

So far as the uranalysis is concerned in gout (especially in acute gout), the uric-acid excretion is reduced, except at periods, when it is

excessive. To be sure, the uric acid in the blood is high, but by no means higher than in certain other chronic diseases or, indeed, than supplied by a very heavy proteid meal. However, uric acid plays some part in gout, and, even though deposited in the joints secondarily, it is well to increase its elimination via the urine route.

Can we do this? We can.

The value of colchicine in true gout is universally accepted among practitioners. In the acute attack, it should be pushed until nausea or diarrhea threatens. Gradually the uric-acid content of the blood will be lowered and large amounts of uric acid and the urates will appear in the urine.

Now and then colchicine will fail us, in which case atophan, a synthetic possessing a similar action, may aid; although reports show that this remedy also fails in cases perhaps in a greater percentage than in those treated with colchicine. Hence, the better-known drug should be tried first of all.

These bodies are termed uric-acid mobilizers. Uric-acid "solvents" are "fakes" in the strictest sense of the word. In fact, the use of these mobilizers is almost contraindicated where uric-acid deposits are present in the urinary tract, inasmuch as the uric-acid output by the way of the urine is increased.

Of course, attention must be given to the diet in all of these cases, for this contributes in part to the uric-acid content of the blood. Special stress is to be laid upon the reduction or prohibition of the following foods and beverages: all butchers' meats, but especially those rich in nuclein, such as liver, sweetbreads, brain, and kidney; tea, coffee, cacao, alcohol, and so forth.

Total Indican

Total albumin, glucose, and acids have been considered on a previous occasion.

Indican estimations can not, and in fact need not be accurate. As a rule, indicanimeters are practically worthless. Indican even in traces must be considered an abnormal constituent of urine. The use of acidimeters, on the other hand, is entirely justified, inasmuch as traces of acid are present in normal urine. But, in the case of indican, diagnostic and therapeutic interest is centered on the one question, "Is it or is it not present?"

It has been suggested that we may control or test the worth of a line of treatment by comparative indican estimations. We can not. For, even though our methods were accurate, it is impossible at times to explain quantitative fluctuations. A treatment to

be of value must drive indican completely from the urine and keep it out. Indeed, a drug acting as a diuretic might actually be judged of worth in indicanuria, inasmuch as the tests would be less marked in the urine thus diluted.

The treatment for indicanuria has been outlined in a previous paper.

Total Mucus

Laboratory-workers are agreed that the total mucus in the urine offers neither diagnostic nor therapeutic information. In questions where possible disease of the urinary tract plays no part, the presence of considerable mucus suggests greater concentration; still, this point may be disproven. Mucopus is not true mucus, but is alkaline pus.

INDICATIONS SUGGESTED BY THE MICROSCOPICAL URANALYSIS

Observation of the nubecula is important from the standpoint of the diagnostician, but so far as we know its presence in the urine has no therapeutic significance. That is to say, it is of interest to determine whether or not other elements and substances are present in amounts sufficient to obscure the normal mucus and its suspended elements; whether or not (as in an alkaline cystitis) there is a "nubecular increase" (which in fact is no actual increase, but an ammoniacal pus, and which can be simulated by adding alkali to any purulent urine), and concerning other variations. But knowing these variations, scientific medicine has not as yet proposed remedies or, in fact, regarded them worthy of treatment. We have touched upon this point in our consideration of mucus.

But our stand must be entirely different in regard to cylindroids, or pseudo casts—likewise of mucus composition. In a highly concentrated urine, the nubecula may give us the impression that we are dealing with cylindroids. We are not, as observation in a number of urines will demonstrate. Cylindroids are not thread-like ramblings of amorphous mucus, but must be regarded as true anatomical elements, quite as much so as true casts are accepted as elements and classified under the microscopy of the urine. Once distinguished, concentrated mucus will never again be mistaken for cylindroids.

Increase of mucus has no clinical significance; this is the consensus of opinion. Persistent presence of true cylindroids must be regarded as an item of pathological importance, and this is the view held by many men,

among them myself. He who belittles the cylindroid is the man who terms every microscopical mucus thread a cylindroid.

Cylindroids Defined

What is a cylindroid? The cylindroid is a cast; not the true cast as described by the texts, but a cast, nevertheless—and from the same mold that mothers the true hyaline, granular or cellular types, viz., the uriniferous tubule.

The cylindroid may be differentiated from other casts by two facts: (1) It is not a perfect cast; for, instead of breaking off bluntly at least at one end, it pulls off, leaving sharp or frayed-out ends. (2) It is composed of mucus, whereas the others are composed of the products of degeneration, necrosis or inflammation. There are other points of differentiation, but for practical purposes these two will suffice.

Clearly, the cylindroid does not (like the other casts) denote serious alterations in the kidney parenchyma, or interstitial substance: it has a meaning nevertheless. Under what conditions, as nearly as we can imagine, would such small amounts of mucus as are likely to be present in the uriniferous tubule be likely to form a cast of that tubule? But one explanation suggests itself to me—a very sluggish flow of urine through that tubule (pressure from congestion, and so on).

This is interesting, indeed; products of excretion should be removed as quickly as possible from the organism attempting to throw them off. It is true of feces (copremia); it is true of bile (bilirubinemia); it is true throughout the animal and vegetable kingdoms. Thus, we find the velocity of urinary flow through a tortuous secreting kidney-tubule very, very slow. It may be true that even at Bowman's capsule there was a water paucity and a solids overplus; cells down the line may be reabsorbing (?) the watery portions—upon all of these points we cannot definitely commit ourselves; but, nevertheless, we have to face the fact that the flow has been retarded sufficiently for a mucus cast of that uriniferous tubule to be formed. Mucus is cohesive and tractile, and is not very adhesive, friable or brittle, even when considerably "dried-out," as are the inflammatory casts. And, so, the typical contour is easily explained.

What to Do

What am I going to do about it? I do not stand alone on this question. Certain men have acknowledged the molding of the cylin-

droid in the uriniferous tubule. Others have conceded that something surely must be at fault in the kidney, and have thrown out hints of such vague terms as "irritation," "urinary congestion," and so on. Still others, supposed to be authorities in urinalysis, have ignored cylindroids so long that into their books have crept such statements as "composed of nucleoproteids," "cylindroids, mucus threads," and so on.

I have suggested a cause; and this is what I should do about it, in fact, exactly what I have seen done with excellent results. I should hasten the flow of urine through those kidneys. I should not employ the drastic remedies, but the milder diuretics, such as, arbutin, for instance, which is excellent in cases of this character.

Significance of Renal Elements in Urine

The finding of the so-called true casts of the uriniferous tubules is universally accepted as proof of the presence of products of inflammation or of retrograde changes without definite inflammatory reaction. Therefore, casts in the urine sample is proof sufficient either of an *active* true nephritis or of an *active* so-called nephrosis (injury with degenerations, necroses, and so on, but no inflammatory reaction); and we can not always differentiate between the two merely by the number or varieties of casts.

We can not go into the question of cast formation in this paper; neither can we dwell upon the diagnostic aspects more than to point out that, while casts denote active lesion rather than consequent phenomena of a former (healed or repaired) injury, they certainly do not, as is the popular view, indicate a progressive, or hopeless, trouble.

Hyaline casts are simple true casts. They form the matrix for granules, cells, fat droplets, and so on, which lend individuality to the other forms. In so many words, all casts which are not cylindroids, are hyaline casts. What is hyaline? We do not know, or at least we can not agree upon a proper definition. As has been stated above, hyaline is not to be regarded as a normal urinary substance. By some it is supposed to represent a local hemorrhage into a uriniferous tubule, with subsequent alterations resulting in the peculiar translucent appearance and brittle makeup. Hyaline gives some peculiar chemical reactions, but of its actual composition and derivation we know but little, although there are plenty of theories.

The therapeutic indications that apply to

the hyaline casts necessarily hold for all casts that are not cylindroids, (although additional indications are met with in the case of the others). We cannot hope to avoid the formation of hyaline casts by rushing the urine through the kidneys; at least we cannot avoid the presence of hyaline by any such method. After all, it is the hyaline rather than the cast that we wish to avoid, for hyaline cannot be regarded as a normal constituent of the urine. But until we know its actual composition and derivation, how can we hope to prevent its presence in the urine?

I am forced to acknowledge that specific remedies do not suggest themselves in these circumstances; so, about the best we can do is, to initiate a treatment for albuminuria, for it is seldom that we see two findings going so closely together as do serum-albumin and hyaline casts. In fact, the hypothesis is seducing that hyaline, after all, may prove but a modified serum-albumin. I have observed that those measures which reduce serum-albumin in the urine also reduce the number of hyaline casts. These measures we have recited.

Granular casts are hyaline casts which have included granules of dying protoplasm—not coagulated serum-albumin, as is the popular opinion, but bits of renal cells. The protoplasmic portion of the cast argues for retrograde changes more forcibly than for inflammatory reaction. It means that those cells lining the lumina of the uriniferous tubules are undergoing cloudy swelling, then coagulation-necrosis, and finally granular disintegration.

First of all, it would appear, the cloudy swelling must be reckoned with. Modern theories favor "acid retention" (in the cytoplasm) as the chief cause of cloudy swelling of the renal cells. Consequently antacid treatment suggests itself as most rational of all; and we shall have something to say regarding this under the finding of kidney-cells in the sediment. Some of these urines may not be highly acid, but, instead, actually alkaline. Do not let this mislead you, for we are dealing with acid retention (not necessarily a high acid secretion—the cause of acid fixation in cytoplasm is unknown), owing possibly to the fact that the cells are weakened by the nephritis or toxic nephrosis, have failed to pass on these acids, and, so, their protoplasm suffers by virtue of this retention.

At times the change may be of a fatty nature; that is, fatty degeneration and consequent losing of fatty granules. The cause

being the same, the treatment is the same. Entire epithelial cells, pus-cells and blood-cells frequently are included in the hyaline matrix; and, so, we have other indications, but these differ in no manner from those where these elements float free in the urine.

Inorganic Mineral Solids in Urine

Before proceeding further with a consideration of the organized sediment of the urine, it will be well, for various reasons, to take up the role of the amorphous and crystalline deposits of salts. We have had something to say regarding phosphaturia; there is nothing to add save the caution that the microscopist understand thoroughly the appearance and meaning of the various phosphates in the urine, so that he will not confuse the really important deposits.

The following therapeutic indications are suggested by the "phosphaturias:"

1. Where the passing of such deposits causes irritation, those measures aimed at the reduction of the total phosphates may be brought to bear. In this connection, we have mentioned calcium carbonate.

2. The same statement will apply in all nephritides, if we are to accept without question von Noorden's advice.

3. It is claimed that "phosphaturia" follows certain headaches and other nervous disorders. However, this means but little to the therapeutist, even though it be true. Treat the headache and its causes, and not this one consequence. Surely, it is not

reasonable to assume that a precipitate of earthy phosphates must be held to account for a headache; at least I can see no connection, for the total phosphates may not be high.

4. Triple phosphates (coffin-lids) voided in the urine suggest alkaline cystitis. The mechanical cause must be removed, if possible; the fermentation held in check with hexamethylenamine, irrigations and so on; and acids given cautiously, to neutralize the volatile alkalis. Boric or benzoic acid may aid. Do not give acetic or citric acid, as they may actually increase the alkalinity. Ordinarily the acid salts may act much better than the organic acids. Best of these is diacid sodium phosphate; it is contra-indicated, however, if the triple phosphates cause mechanical irritation (being, as it is, a true phosphate), and calcium carbonate must be given instead (for reasons explained above).

Ammonium urate is also a result of ammoniacal fermentation, and its appearance in the freshly voided urine calls for measures identical with those advised for triple phosphate. The appearance of amorphous sodium and potassium urates and of uric-acid crystals is of considerable diagnostic significance at times (especially as an index of nitrogenous catabolism); but of themselves, they suggest but little to the therapeutist, except as we have shown above, perhaps, in cases of gout and certain obscure arthralgias.

(To be Continued)

The Doctor's Automobile

The Kind to Buy, and How to Use It

By A. L. BENEDICT, A. M., M. D., Buffalo, New York

Editor of "The Buffalo Medical Journal"

THE following statement is prepared for the physician who contemplates buying a car and who wishes to consider economic problems somewhat carefully, rather than for the expert.

Initial Coast

A satisfactory car can be bought for about \$500. So far as can be judged from observation on the road, such cars cause less trouble than do the more expensive ones; not to mention that the incidentals are much less, partly owing to the fact that garage-men grade their prices for "repairs" according

to the seeming wealth of the owner. Such a car, well used, should last at least three years or can be traded for a new one at a discount rate of about \$150 per year of use. The yearly cost of "plant" is, therefore, the interest on \$350, plus freight of delivery of a new car, plus \$150. Expense beyond this amount represents luxury, pleasure use, and so on.

Upkeep and Mileage Expenses

Owing to a bad carburetor, inexperience, and other factors, my mileage varied, from about 12 miles per gallon of gasolin at the

outset, up to about 25 miles on country runs, with an air-device for improving the carburetor, in the summer, and down to about 14 miles in the winter, when the car was left running during short waits and when more low speed was used, very little long-distance riding being done. The general average was 17.83 miles per gallon, at a cost of 1.3 cents per mile. During most of the time, 18 cents was paid for gasolin, against 17 cents during the winter. For the first 2000 miles, 20 cents a gallon was paid, under the delusion that a superior grade of gasolin was being obtained.

The average cost was also increased on account of initial imperfect equipment, so that the engine ran on three cylinders a good deal of the time. Oil, allowing for emptying about every 3000 miles and for waste in the beginning—from fear of burning out the bearings—was used at the rate of 1 gallon for each 345 miles. The price paid ranged from 80 cents to 30 cents per gallon, and the latter really proved more satisfactory than did the more expensive kinds. Oil, therefore, should cost less than 1-10 of a cent a mile. The same kind of oil was used for lubrication, except that, recently, sperm-oil has been employed for the commutator, to prevent fouling. Grease: 5 pounds, at \$1.00, lasts for about 10,000 miles, or 100 miles for one cent. With a good equipment or sufficient knowledge to keep the engine running on four cylinders, I am convinced that the mileage cost for gasolin, oil and grease, all told, should not exceed 1 cent for a small car, and up to 3 cents for a large car.

Expense for Tires

This item, for a large car, is said to cost about 9 cents a mile. Smooth tires for a light car cost about \$60 a set for outer tubes and about \$16 for the inner. By careful buying, for the present year, these sums can be reduced to about \$44 and \$11, respectively. The life of a tire is something like that of a suit of clothes. As there is not the same objection to patching a tire and "making it last," it may be estimated that the maximum average use of a simple tire is 5500 miles, bringing the cost to about 1 cent a mile as a minimum, plus whatever one has to pay for repairing punctures and changing tires. Half the ordinary year's use of a car, so far as tires are concerned, is included in the initial cost of the machine (10,000-mile estimate). It should be remembered that there is a point in repairing tires, as for clothes, at which even financial economy

ceases. Retreading seldom pays, although one may not lose money, as compared with throwing away a tire that is perfectly good except for wearing away of the rubber covering.

A long stick with right-angle projections, to gauge the wheels (especially the front ones), should be applied frequently, as, if the wheels get out of alinement, the tires wear rapidly. A new section does not pay, except for a comparatively new tire badly injured in one place. Liquid coatings, to make up for gradual wear, do not pay, although one may use them for whitewashing a fence. It is an open question whether vulcanizing stone bruises and nail holes pays if one has them done at an actual expense, but there is no question as to its being profitable if one does not have to count the cost of skilled labor. A very good vulcanizing outfit can be bought for about \$2.50, and some of the plastic filling material is very good, although usually it has to be replaced often.

Punctures, Blowouts, and Chains

In considering economy, it should be remembered that actual punctures are not usually so frequent or so troublesome as blowouts and that abrasions of the inner tube, due to rough places on the rims and outer tubes and to nipping in replacing tires, are worse yet. No tire is absolutely proof against deflation, unless it is filled with some solid material, and any tire which aims to prevent either punctures or to replace chains to prevent skidding costs at least as much as it saves, beyond the ordinary cheap smooth tire.

In regard to skidding, one should choose at the start between nonskid tires and chains. The fact that one so often sees chains on corrugated tires seems to indicate that the latter are not efficient, except the particular one which the agent is trying to sell, and, with the same exception, chains are liable to rip off the corrugations. The corrugated tires are also more difficult to vulcanize. I have used chains only two or three days. For a light car, in a well-paved level city, they are not needed for rain, ice, fresh snow of moderate depth or packed snow, provided one is willing to reduce the speed limit to 15 miles, and to reduce further when turning corners or when a sudden stop may be necessary.

Chains are necessary in mud, especially on hills, but can be dispensed with even in such cases when one faces the ordeal of putting them on. In dry, warm weather, it is no

trouble to put on a chain. It is not necessary to jack up the car, nor is it a good plan to stretch the chains on the road and back onto them. They should be draped over the wheels and the car run forward part of a turn. It should be remembered that chains inevitably injure tires and that the cross links need frequent replacing. Having paid double price to get cross brass links and having had the brass wear down to steel in fifteen minutes, I am inclined to favor using cheap steel chains and carrying extra cross links.

Lights

There is no question but that the most economic light, especially when the car is left standing at night for long periods and lights are required, is kerosene. There is equally no question but that the cheapest brilliant light for searchlights is acetylene. For moderate brilliancy, sufficient for night driving in the country, except when one meets an expensive sunburst equipment, economy and convenience, an electric attachment to the magneto seems to be the best. The manufacturers will not guarantee the magneto against such use but say themselves that it is doubtful whether it will materially reduce its efficiency or life. Having been provided with a leaky gas generator, and having gone from this to storage-battery lights and having broken several glass protectors, my bill for lighting was relatively high—over \$32, with very little use of lights at night.

Repairs and Various Other Items

My repairs and similar expenses came to about \$100. About \$10 may be considered legitimate expense; \$28 was due to burning out bearings, owing to lack of an oil-gauge, the pet-cock arrangement being entirely misleading to one not an expert, although simple in theory; about \$55 to accidents not covered by insurance and not collectable; besides, about \$35 more paid by the vulnerating party, and not counted in the \$100. The remainder was mostly in the form of tips for getting the car started, due to imperfect original equipment, inexperience, and lack of muscle.

The expenses independent of use, and equipment include state tax, rent or its equivalent, cleaning, and so on, and insurance; and these, of course, vary according to circumstances. It is a good rule to keep the car in a private barn, and I have made it a rule not even to store it in a regular garage for a night while traveling. Thefts of gasoline, tools, and so on, are not so important in them-

selves as in the inconvenience of their being unexpectedly missing; also, it is easy for a garage owner to "discover" defects that must be repaired immediately, or to be so intensely "altruistic" as to make work for the next garage. However, there are to be met with a good many really honest mechanics who devote their attention to automobiles.

Insurance, below the \$25-limit, is an almost prohibitive expense; and, as small cars are seldom damaged to this amount in a collision, it scarcely pays to carry special collision-insurance. Partly on account of the lower limit of insurance, it is wise to carry two extra outer tubes that have the inner tubes in place, or else a complete wheel, so that, if tire thieves are at work, the loss will be covered.

Extra Equipment

Besides the ordinary tools, it is well to carry the following: extra tires, patching kit (for long trips), vulcanizer, spark-plugs, valve-caps, can of engine-oil, box of grease bottle of high-test gasoline or ordinary gasoline with a little ether in it, varnish- and metal-polish, plenty of rags, oil- and grease-caps, cotter-pins, and so on. Mailing cases are convenient for carrying many of these things.

An old valise will hold most of the miscellaneous equipment; and it saves time, especially in the dark, to have everything needed for a given trouble, such as a puncture, in one place. A trouble-lamp is convenient, but can be dispensed with if everything needed can be gotten out together. If electric lighting is used, extra bulbs should be carried. Everything carried—tools, equipment, extra wraps, and so on—should always be packed or arranged with the idea that the constant jar of the car will break anything that can be broken, chafe everything that can be chafed, and shake out onto the road everything that is loose.

Additional stationary equipment. The following additions to stationary equipment are desirable in a "simple" car, as the simplicity is of the September morn kind.

Oil gage. I have used a dash gage, but have replaced it with a 25-cent pet-cock gage, fearing that the long float might stick and because the glass gage gives an idea not only of the quantity of oil but of need of renewing it. A small wooden box or mailing-case may be used to protect the gage from flying stones, although, if properly placed, there is little danger of this. However, it is wise to carry an extra gage.

Gasolin gage. This is not strictly neces-

sary if one is careful to inspect the tank every 100 miles.

Hodometer. This is necessary for oilings, if for no other purpose.

The Starter and Other Luxuries

Electric starters are rather unreliable and the expense is disproportionate to the price of small cars. A good mechanical cranker may not actually reduce the foot-pounds of power necessary, but the power is exerted at a physiologic advantage and it saves getting in and out of the car; and, ultimately, it saves engine wear, as without it the engine will be kept running when it might be cooling off. At the same time, the primer should be transferred so as to be pushed with the foot.

Priming, acceleration by admitting air at high speeds, testing the carburetor at low speeds, cleansing cylinders, and so on, may be accomplished with a single instrument, at small cost.

On a small car, a battery for cranking should not be necessary. I installed dry cells on account of hard cranking, but found that it made no improvement, the defect being inherent with some part of the ignition-apparatus. A storage-battery for lighting has advantages already discussed and may also be used for cranking. A further use is, to heat the manifold by means of a resistance coil, so as to facilitate starting in cold weather or when low-grade gasolin or mixtures (intentional) of gasolin and kerosene are being used.

Shock-absorbers are a great comfort, and if one has only a limited amount of money to spend on a car it seems better to buy a cheap one and to spend from \$50 to \$100 on these additions, rather than to buy a more expensive but no better-equipped car.

Of the 1002 articles advertised to supplement the needs of automobilists, I would mention only one other as imperative, namely, efficient supports for the number-signs. Many of these articles are cheap and valuable, but one can readily waste time and money on them. Files, extra forceps (often two are needed in removing valve-caps), wrenches, a mallet for removing tires that are stuck, brushes, and so on, can usually be supplied from ordinary tool-boxes, and so forth.

The Time Element

So far as my observation goes, the doctor who personally takes care of his car does not save any time, unless he uses it strictly for business, and neglects its outward appear-

ance. If one follows all the directions printed to save tires and keeps the machine in perfect order, he will have no time for anything else. Many men in and out of the profession are frittering away their time riding around in an automobile. As a means of recreation, the automobile is all right, but one should not forget that an occasional boat trip or a trip by train to a distant point is better than spending all one's time on country roads within a day's radius. And, if the automobile is valuable to give the city dweller a taste of the country every day or two, it is senseless to run up records of speed and mileage instead of getting out and enjoying the country itself. A man taken for a country ride by an automobilist was asked what he had seen. "A streak of red or brown in the middle, a stretch of green on each side and a line of blue above it," was his reply.

Do Not Forget How to Walk

Just because one has an automobile is no reason why he should forget how to walk or to use—as economy, convenience and comfort suggest—carriages, street-cars, and bicycles. One of my pleasantest recollections is the quiet, moderate travel on a wheel; dusty and sweaty, to be sure, but without the grime, noise, nerve tension and constant fear of disablement attendant upon the automobile.

I will close with two suggestions. Don't be a hog. Show the same courtesy to your friends who do not own automobiles as you would in other matters; and, so, follow the same time-honored rule as to pedestrians as horsemen have done for these many years. Most of the pedestrians you pass in the country will not die of heart failure if you give them a "lift," and, if the custom were more general, more consideration would be shown to automobilists. Secondly, in the city, do a radical ectomectomy. In other words, cut out the cutout, this latter being an affection on a small car and a nuisance on a large one.

[Dr. Benedict is an advocate of the small car. Doubtless among our readers there is one who would like to take up the lists for the larger machines. If so, "The door is open." Every doctor seems to have his favorite, and nearly every one has more or less trouble of some kind. In the Miscellaneous Department, this issue, two physicians give their experiences, with careful records of expense. We commend these articles to anyone who may be interested—Ed.]

Some Facts About the Papaya

Also About Pineapples and Grapes

By ROBERT GRAY, M. D., Pichucalco, Mexico

SOUTHERN interest was so extensively aroused by what I said about the papaya in the January, 1913, number of CLINICAL MEDICINE that it is impossible for me to answer all the letters that came through personal mediums.

Dr. C. R. Oertel, Sante Fé, Isle of Pines, Cuba, wrote me he had a grove of 200 trees, three varieties, and desired to exchange seeds. This is an impossibility in these parlous times, and I make this statement in order to suggest how seed may be obtained. The better plan would be to get seed in ripe fruit, from Havana, where I suppose there is plenty of it. Mine came that way from the coast. It was only one big long fruit; this, however, produced long, big round, and small round of the size of a big apple; all, though, of the same flavor.

Papaya may be grown successfully where there is no frost, or where it might be perfectly protected from frost injury, say, the Everglades coast belt of Florida. The Keys should be ideal locations. It could be shipped by express as far as Chicago, maybe farther; starting it when mature, but before yellow and soft. I frequently have a fruit in the house a week before eating it.

Papaya as a Digestant

The fresh fruit dominates digestion to such a degree that I can eat salt fish or beef—an otherwise impossible ordinary diet for me—if I eat papaya at once afterward, without experiencing the slightest inconvenience. And I have seen the same results even in dyspeptics, many times. In long and difficult convalescence this fruit acts magically.

I presume the juice could be preserved in some way along the line employed to keep that of pineapples fresh, or that of grapes. If your protected spots would produce sufficient quantity, some way would be found to keep the juice to send where the fruit could not go. This should be extremely profitable, as I have ripe fruit in eight months after the seed sprouts; and many plants produce as high as fifty fruits each—seldom less than twenty.

I eat the papaya at table, the same as you all eat musk-melons, three times daily, frequently. It needs no sugar. After the first planting gives fruit it can be had ripening all

the year round. I have to destroy plants as weeds, they start so numerous, even where not wanted.

Pineapples and Grapes

But now that you have preserved pineapple-juice at ready command, you should be out of the jungle with indigestion and critical convalescences. A tablespoonful of ripe pineapple-juice in a tumbler of water, on any ordinary prudent meal, will counteract such inconvenience. I use it extensively when out of reach of papaya—I being the only grower of papaya in nearly fifty miles around, so far as I know. I grow my own pineapples and have the juice always ready for use, or the ripe fruit, nearly any day in the year.

Ripe grapes positively cure dyspepsia, if the patient will fill up with them every day and stick to the treatment, eating rare beef-steak or roast, baked potatoes and butter, brown bread, and other nutrients. But the grape-juice will not do the work of scavengers, nor distend the contracted stomach, which the fruit performs so admirably.

You all have ripe grapes the year round, or practically so; and much more cheaply than drugs. I imagine few people would tire of such medication. Grapes supply a need of bulk in the alimentary tract that nothing else perfectly harmless remotely approaches, in quantity so excessive that one more cannot be ingested, with a high degree of benefit. But eating them two or three times, or even much more often, will not suffice to effect a cure. The process may be long and seem tedious; for the derangement is deep-seated and often so obstinate as to be without the pale of successful clinical medication; and the living death it often entails is a fearful martyrdom.

The papaya, the pineapple, and the grape have properties that would afford more relief to a larger percentage of suffering humanity than any other three substances in the vegetable kingdom or the chemical realm. More than half the physical distress in the world originates in the stomach primarily due to multiple causes, more often to imprudent or vicious eating and drinking. But the cause need not disquiet our solicitude: relief is the seriously puzzling question; and there is

no other universal affliction in such startling number so little benefited by chemicals.

Papayotin has practical merit in the treatment of indigestion; but much of it is made from a little wild fruit, used to make preserves in a crude way, that grows all over the woods here; but it is without medicinal value, either raw or cooked; and no one attempts to eat it without sweetening. As a preserve it has little merit.

Advantages of a Gasolin-Stove

For economy and convenience, I desire to call the attention of doctors especially to gasolin-cookstoves. There is no smoke nor heat; but for rapidity of work probably electricity is its equal. By the time a wood or coal fire is well started, coffee and oat-meal, soft-boiled eggs or beefsteak are on the table, ready to eat, from the gasolin-stove. I have a four-hole stove, and would not part with it for a thousand dollars, under obligation not to secure another. Gasolin is not cheap here; yet, it costs me less than ten cents daily to run my stove, baking and all. And it seems to me that it does ordinary cooking better than other stoves, save electricity.

Dr. E. S. Goodhue, of Hawaii, had a fine contribution on the papaya in *CLINICAL MEDICINE* two years ago—1912—giving information which I omit. He sent me reprints and poems from his own pen, published in medical journals and elsewhere—an interesting literary feast. He contemplated a pilgrimage with his family to this rebel tramping ground, under the delusion that all is peace here, of which I tried to disabuse his mind.

Since writing the above, while waiting an underground mail to send through rebel lines, information reached me from the U. S. Department of Agriculture that Mr. Edward Simmonds had successfully solved the problem of grafting the papaya, with less difficulty than the apple or peach; and that he is experimenting now on the stalks of the wild, practically worthless fruit; which would give a result to stand considerable cold. And it is certain he will succeed, as the stalks are not very dissimilar, the wild growing and forming the same as the cultivated. Mr. Simmonds affirms that the fruit will stand transportation well, shipments having gone from Jamaica to London in perfect condition.

His knowledge passes mine. The mere fresh leaves will render the toughest meat tender in two hours, where he says the natives put all such meat; and that, if juice of the fruit is liberally applied to raw meat, it is reduced to pulp in half an hour; the digestive property far surpassing that of pepsin. He thinks all markets of the United States may be supplied; still, he gives fifteen months as time required to secure fruit, while I get it in eight months.

The efficacy of papayotin caused me to make the fruit experiment, which I have not carried beyond eating the ripe fruit; but the first tough bull beef I have I shall wrap in leaves two hours before cooking. Owing to the acuteness of the war, we have meat less than half the time.

Regarding the Revolution

The rebels besieged Pichucalco from the mountain entrances a long time with four or five times the number of the garrison, and moved around a few days ago to the river-side, to the plantation where Dr. Maldonado, my friend (photograph in January, 1913, *CLINICAL MEDICINE*), lives with his family; the garrison unexpectedly attacking them with such deadly fury that they took refuge in the house, a big three-story brick. The rebels claimed to have 600 men, the day before the combat. The federal force was too small to make the investment perfect at all points, so that 150 rebels escaped, those not dead nor too badly wounded to flee, without a horse, baggage or hope, arranging a terrible explosion in the house, distracting the attention of federals momentarily from observing that the escape was made over a bluff from the riverside of the house. The federal loss was less than a dozen men. It is said the Doctor and his family were in a cellar throughout the ordeal of four hours.

We are in the gloom of midnight, with no prospect of peace.

[This article was written some months ago, its publication being delayed. We have just received another most interesting paper from Dr. Gray which we hope to publish next month.—ED.]



What Others are Doing

DIAGNOSING MASTURBATION IN GIRLS

The following ingenious method of diagnosing masturbation in young girls—older ones, too, perhaps—is described by Bernard Kaufman in *The New York Medical Journal* for October 18, 1913, page 772:

Secure a specimen of the child's urine and examine carefully for exclusion of the presence of yeast. This done, direct the mother to give the child some yeast, made up fairly soft, to play with just before it goes to bed. Then, without allowing the girl to wash her hands, put her to bed, putting her in a shortened nightgown. Next morning she is to collect the child's urine in a carefully cleansed vessel and promptly bring it to the physician's office. This urine then is centrifuged, and if the yeast fungus is found in it, the author says, it is proof positive of the practice of masturbation.

The difficulty with assuming this an infallible test lies in the fact that even accidental touching of the genitals, which may occur to the most healthy-minded youngster, would lead to yeast contamination. A series of these tests should be made, and then the girl should be examined for worms or other possible causes of itching or irritation before pronouncing a "positive" diagnosis.

BACTERIN TREATMENT OF ACNE

An interesting contribution to the treatment of acne was made by Jessie W. Fisher in *The New York Medical Journal* (Sept. 6, p. 469). Omitting Doctor Fisher's references to local and internal treatment, although of interest and value, we call attention especially to her statement that failures with bacterins in the treatment of this disease probably are entirely due to improper dosage; the doses, she declares, being either too large or too frequently given.

As to the size of the doses, the author continues, "we have a guide which those who run may read, namely, the lesions themselves. If fresh lesions crop out within twenty-four hours after the injection, it indicates too large a dose. If no change takes place, or brief

improvement followed by fresh lesions, it is probable that the dose is too small. If an initial improvement is followed by a crop of fresh lesions, the interval is too long and should be shortened."

Doctor Fisher asserts, further, that one of the most frequent errors consists in allowing too short an interval, which does not permit time for the development of the positive phase. She tells of one patient who received no benefit whatever from the bacterin treatment until called away on business for six weeks, during which time no treatment was taken. When he returned at the end of that period, there was improvement of at least fifty to sixty percent. Thereafter the intervals were increased to six weeks, and the case finally progressed to a complete cure.

POTASSIUM PERMANGANATE IN POISON-OAK DERMATITIS

Edward von Adelung (*Interstate Med. Jour.*, Feb. 1913, p. 139) has made an experimental study of the dermatitis caused by poison-oak (*rhus diversiloba*). He comes to the conclusion that the poisoning is purely local; that the poisonous substance is nonvolatile; and that potassium permanganate, locally applied, is curative, probably acting by combining chemically with the toxin, the medicament being of greatest value when applied early and when the papules of the vesicles are opened by vigorous scrubbing.

The procedure followed by Dr. von Adelung is as follows:

First remove all the poison from the skin by thorough scrubbing of the entire body, especially the hair, with soap and hot water; then fresh clothing should be put on, rejecting even the shoes worn in the vicinity of the plants. Itching is relieved by applications of water as hot as can be borne. The most valuable remedy for local application, the author asserts, is potassium permanganate, although hot bichloride packs are of much value. When the vesicles become infected with bacteria, the dermatitis assumes a different character and calls for antiseptic and bactericidal treatment.

There is little doubt that other forms of rhus poisoning, particularly with rhus toxicodendron (poison-ivy), will respond favorably to the same treatment.

BACTERIN TREATMENT OF ERYSIPELAS

Fisher (*N. Y. Med. Jour.*, Sept. 6, 1913, p. 469) quotes Ross and Johnson as saying that "a vaccine prepared from the streptococcus erysipellatis, properly administered, exerts a specific and controlling influence on the course of the disease, preventing its spread, lessening its severity, and hastening recovery." The writer declares that the preceding statement is an accurate one, providing the vaccine is administered as soon as the diagnosis is made, but not as a last resort.

A guide to dosage is found in the severity of the infection and the clinical resistance of the patient. "*The more severe the case and the less satisfactory the clinical resistance, the smaller the dose.*"

She begins with a polyvalent stock bacterin, giving 10,000,000 bacteria in severe cases, double that amount if the case is seen early, when the symptoms are mild, and 5,000,000 bacteria in twenty-four hours if the case shows no improvement. Should improvement be noticeable, the initial dose may be repeated every forty-eight hours and gradually increased. The treatment is continued until a week or ten days after the temperature is normal and the blush has disappeared.

STERILIZATION OF ALKALOIDAL SOLUTIONS

At the meeting of the German Society of Naturalists and Physicians, Mossler read an interesting paper upon the effect of heat in sterilizing the principal alkaloids. (See *Apotheker Zeitung*, 1913, 28, 786.)

First, as regards morphine.

Morphine hydrochloride, when alkalis are absent, develops a faint yellow color when sterilized. However, decomposition is so slight that it may be disregarded for all practical purposes, and this change may be still further reduced by first adding just a trifle of hydrochloric acid to the solution. Morphine acetate shows considerably more alteration when similarly treated.

Codeine and dionin may freely be heated up to 115° C. Heroin hydrochloride, however, liberates acetic acid when boiled as well

as in tyndalization (i. e., repeated sterilization). Apomorphine hydrochloride develops a very marked color even on tyndalization and must, therefore, be sterilized by filtration.

Cocaine hydrochloride does not decompose readily at 100° C., but, if the temperature is higher than this or if subjected to tyndalization, there is considerable dissociation. Stovaine also may be heated to 100° C., showing only slight decomposition at that temperature. Atypin salts are very sensitive to the action of heat and cannot safely be sterilized by boiling.

Atropine sulphate is not affected by tyndalizing, and only to a slight degree when heated up to 100° C., so that extemporaneous sterilization of its solution by boiling is permissible.

Solutions of quinine dihydrochloride and of cotarnine hydrochloride show only a slight deepening of color at 115° C. Pilocarpine solution bears a temperature of 100° C. well, but at a higher point the alkaloid begins to change to isopilocarpine. Physostigmine salicylate can be sterilized only by filtration; heating and tyndalizing cause decomposition.

IMPROVEMENT IN THE X-RAY-TUBE

From a number of sources we learn that an improvement has been made in the x-ray-tube, one which by many is considered the greatest advancement in the improvement of the application of this method since the first discovery by Roentgen. From the *London Medical Times* (Jan. 10, 1914, p. 30) we quote as follows:

"The inventor is Mr. William Coolidge, of Schenectady [N. Y.], who is employed in the General Electric Company's laboratories. He has been working secretly at these new rays for three years and thus far has perfected only two tubes. His method of production differs from the old one and enables him to secure such efficiency in control and application that great benefits to therapeutics are expected as soon as the technic of the new method is thoroughly understood. The Coolidge tube, it is explained, will not cheapen the cost of production, but its use will enable operators to control absolutely the power they wish to administer.

"In the old x-ray-tubes, the cathode and anode are of different materials. Mr. Coolidge has discovered that better results come from the use of tungsten throughout, and that ductile tungsten—a recent discovery—is best; the scarcity of the latter, however,

has retarded his progress, and more must be manufactured before his method of ray production can be of general practicability. The anode in the Coolidge tube consists of heavy tungsten, while the cathode is of light tungsten. In the new tube, there is no fluorescence. Streams of charged particles from the tungsten anode and cathode, which are heated in a vacuum, are driven by a powerful electric current, and the ray is formed; it is more or less penetrating in proportion to the speed with which the particles are driven.

"The new method of producing the rays is expected to be of great value in treating cancer and similar diseases, owing to the certainty with which it can be controlled; but much work remains to be done, and it will probably be some time before it will be in anything like general use."

INTESTINAL KINKS AND AUTOINTOXICATION

Of peculiar interest to the editors and readers of *CLINICAL MEDICINE* is the remarkable revival of interest in intestinal autointoxication, due to the work in this special field inaugurated by Sir W. Arbuthnot Lane. Many papers upon the topic are being published in English and American journals, mainly, however, by surgeons.

According to Lane and his followers, fecal stasis and the resulting toxemia very frequently are due to obstruction of the intestine, caused by the constriction of bands, kinks or adhesions that narrow the lumen of the bowel and delay the fecal current. Such slowing of bowel movement favors undue multiplication of bacteria, and the migration of these organisms and seepage of their toxins into surrounding tissues, thereby setting up low-grade inflammatory processes which eventually are responsible for the development of more adhesions and further narrowing of the lumen of the intestine.

Irving S. Haynes, in a paper in *The New York Medical Journal* (Jan. 10, 1914, p. 58), shows that the symptoms resulting from these intestinal kinks are dependent upon three intimately associated factors; namely: (1) interference with the motor function of the bowel; (2) disturbances in digestion and absorption; and (3) effects of peritoneal irritation and inflammation. Patients thus affected complain of obstinate constipation, of severe cramping pains, of mucous colitis, together with attacks of diarrhea, of digestive disturbances and troublesome generation of gas (a symptom complained of by nearly all these

patients), anorexia, and nausea, but rarely of vomiting. Other resulting symptoms are: malaise, loss of weight, pigmentation of the skin, nervous symptoms (usually called neurasthenia), and there also are periodical headaches, weakness, and prostration.

The medical treatment should consist practically of a meat-free diet, the chief articles of food being fruits, vegetables, and cereals. Buttermilk is permissible, but fresh milk often causes indigestion. Oils of various kinds may be taken freely, and water should be consumed in large quantities. Haynes also declares (l. c., Jan. 17, p. 121) that the liquid petrolatum, so enthusiastically advocated by Lane, has been a disappointment in his hands. Patients become disgusted with it and cannot be persuaded to take it for any length of time. He suggests, though, that a useful substitute for the liquid petrolatum would be solid petrolatum taken in capsule form. In virtually all cases, he seems to advocate surgical intervention, all adhesions, membranes, kinks, and the like that constrict the bowel at any point to be removed. In 21 cases operated upon, 18 patients were cured, while 3 were improved.

CHRONIC INTESTINAL STASIS

The New York Medical Journal for January 24, 1914, contains papers upon the subject of intestinal stasis by Bainbridge, Quimby, and Hayes, everyone of which is of extreme interest. Bainbridge, for instance (page 154), divides cases of this nature into three groups. In the first group, surgical intervention is not necessary; diet, posture, exercises, a properly fitted belt, and suitable medicinal treatment being sufficient for relief. The second group consists of midway cases, in which it is possible to repair the drainage-system and effect a clinical cure by simple surgical measures. In the third, however, more serious surgical intervention, involving a short-circuiting of the bowel or even actual colectomy is necessary for good results. Bainbridge describes many cases of the second class in which cures generally were effected by the removal of constricting bands and their resulting kinks.

Quimby's paper, in the same number of *The New York Medical Journal*, deals with the roentgenological examination. Preliminary to the examination, all enemata, cathartics, laxatives, and oils should be withheld. Then he administers from 4 1-2 to 6 ounces of bismuth, depending upon the height and weight of the patient. The bismuth meal is followed through the patient by roentgeno-

logical examinations at definite periods; a complete inspection requiring from six to ten visits and lasting from three to six days. About 50 percent of subjects will evacuate the entire bismuth mass in fifty-four hours. Of the remainder, 30 percent will be rid of it in 78 hours; 15 percent, in 102 hours; while in 5 percent this period will extend beyond that.

Quimby's experience has revealed some very interesting facts relative to the mechanics of bowel obstruction and the points at which kinking or constriction is most likely to occur.

Thus, the first point is at the lesser curvature of the stomach; the next is at the junction of the first and the second portion of the duodenum; the third, at the junction of the duodenum with the jejunum; and so on through the length of the canal. Quimby found five special points of obstruction in the colon alone. Stasis in the cecum is very frequent, being the result of several mechanical factors.

ILEAL STASIS

Another paper in which the ideas, theories, and methods of treatment advanced by Lane, of London, are discussed, is contributed by Harold W. Baker and Donald V. Baker to *The Boston Medical and Surgical Journal* for February 12. In this paper, the authors named take up particularly intestinal stasis affecting the upper portion of the bowel—the ileum.

Stasis of the ileum may be caused by chronic appendicitis, by an ileal kink, a congenital membrane or by an incompetent ileocecal valve. Normally, say the authors, putrefaction never takes place in the small intestine; but passage of the food mass may be delayed as the result of obstruction, when decomposition occurs and toxic absorption follows. Gradually this process involves a larger portion of the ileum and jejunum; and the duodenum, gall-bladder, and stomach at last also suffer. The duodenum is found markedly distended, the mucosa congested, there is bacterial invasion of the biliary and pancreatic ducts, and the long catalog of symptoms recorded by Lane and his followers is likely to follow.

In the diagnosis of these cases, the x-ray is resorted to after a bismuth meal. In this way, the degree of stasis can be determined, and usually the location of the constricting point.

According to the authors, much can be accomplished by means of proper medicinal treatment. For the relief of the constipation—which, after all, is the essential factor—they recommend a bulky diet and the use of agar-agar and liquid petrolatum. The protein intake should be reduced. He asserts, also, that the use of the bacillus bulgaricus decidedly helps to diminish autointoxication.

Surgical treatment is indicated only when the medical treatment has failed and a true lesion is known to exist. Whenever a patient suffers from chronic constipation and autointoxication, the Doctors Baker declare that a thorough x-ray examination should be made by an expert roentgenologist.

THE SYMPTOMATOLOGY AND TREATMENT OF INTESTINAL STASIS

A very complete résumé of the symptomatology of intestinal stasis is presented by W. V. Hayes (*N. Y. Med. Jour.*, Jan. 24, p. 170). Most interesting is the long array of symptoms and signs given by Lane, which are carefully summarized, including a long list of "diseases" and complaints of various kinds. Among these symptoms are enumerated, for instance: headaches, which are exceedingly frequent; rheumatic aches and pains; degenerative changes in the breasts, heart, and kidneys; prolapse of organs; loss of hair; gall-bladder infections; degenerative diseases of the eye; pyorrhea; rheumatoid arthritis; changes in the thyroid gland, and many more.

However, the symptoms most frequently observed by Hayes are: weakness, loss of weight, headache, nervous irritability and emotional states, lack of concentration, drowsiness, insomnia, poor circulation, palpitation, cold hands and feet, constipation, soreness of joints. And in those cases where there are gastric complications: bad taste, belching, regurgitation of food and acid fluid, erosion of the teeth, pain between the shoulder-blades, nausea and vomiting.

Ulcer near the pylorus has been a rather frequent complication.

The marked physical signs have been: pallor, with or without anemia; a sallow color or slight pigmentation of the skin; cold moist hands and feet. Also the following abdominal signs: (1) Dilated duodenum, often associated with gastric stagnation or distention. (2) "Pressure paradox"—the escape of gas from the dilated duodenum (often possible to hear and feel) obtained by pressure backward

and upward for about thirty seconds by the hand placed just below the umbilicus, the patient being in a semirecumbent or reclining position. (3) Inflated ileum, shown by a marked tympanitic note to the left of and below the cecum. (4) Corded colon, which may be felt as a rope-like body directly beneath the abdominal wall.

As to treatment, Doctor Hayes advises a bland laxative diet, containing a minimum of protein and little material prone to ferment. Exercises are advised that will strengthen the abdominal wall, and correct habits of carriage are insisted upon. He says that a suitable belt, corset or spring support is indispensable in most instances, and that these should be carefully adjusted below the umbilicus, to give pressure upward and backward.

As to medication, the principal indication is for bland laxatives. Like most writers upon this subject, Hayes follows the advice of Lane, in placing Russian mineral oil of superior quality as first in this category. Other laxatives advised in suitable cases are: agar-agar, phenolphthalein, laxative salines, and cascara, with an occasional dose of calomel. All drastic purgatives, such as colocynt, podophyllin, and the like, are contraindicated. Like other writers upon this subject, Hayes calls attention to the value of surgical intervention in many of these cases, although he declares that "surgery is not to be thought of in the great majority of instances."

These reports of one of the great current medical movements of the time are of special interest to readers of CLINICAL MEDICINE, because of the insistent teaching of this journal for so many years. Never for a moment have we relaxed in our insistence upon the vital importance of the intestinal canal as a factor in the generation of disease—in our belief that in intestinal toxemia is to be found the *fons et origo* of a considerable percentage of the maladies from which most people suffer.

The ideas of Lane and his followers in the main are supportive of our own opinions, although at the present time there is an overfondness for resort to surgical operation for the relief of conditions that, in our opinion, can very largely be relieved by the clean-out, clean-up and keep-clean policy which this journal has preached for so many, many years. If to the dietetic restrictions and hygienic advice we add the use of proper laxatives and of intestinal antiseptics calculated to modify or prevent the putrefactive processes, we firmly believe that most victims

of this class can be saved from the operating table.

LUMINAL AS A SOPORIFIC

Luminal, one of the newer synthetic somnifacients, has been given a fair trial by G. Lomer and he does not appear to be highly enthusiastic over it. His conclusions (*Psych. u. Neurol. Woch.*, 1912, No. 42) are to the effect that, indeed, luminal may substitute other narcotics, and even at times prove superior; still, in a rather large percentage (one-third) it displays disagreeable side-effects, quite as much as do the older ones, and, hence, must be administered with great caution. Moreover, he found that at least some patients quickly require augmented dosage.

RADIOACTIVE WATER FOR ALVEOLAR PYORRHEA

In an experience with 16 cases of alveolar pyorrhea, F. Dautwitz (*Wien. Klin. Woch.*, 1913, p. 843) claims to have seen more favorable results from radioactive water than from any other remedy. He employed irradiated water with 1,000,000 M.-E. emanation content, and the cure required about three weeks.

Several times a day the patient had to rinse his mouth thoroughly with a few drams of the water, continuing (with rests, and breathing through the nose) for two or three minutes. Then cotton pledgets wet with the water were placed between the gums and cheek where infection was worst, leaving them in place for some fifteen minutes.

OIL-AND-ETHER RECTAL ANESTHESIA

Some time ago *The New York Medical Journal* published the account of a remarkable innovation in anesthesia introduced by J. T. Guathmey, of New York. Now, in *The Lancet*, (London) for December 20, 1913 (p. 1756), we find another paper upon the same subject by Doctor Guathmey.

This new method of anesthesia consists in introducing into the rectum very slowly a mixture of ether and olive-oil. It has been demonstrated in about 100 cases, the ages of the patients ranging from 4 years to 71 years.

The advantages claimed for it are as follows: (1) The element of apprehension and fear caused by placing a mask over the face is avoided; (2) no expensive apparatus is required; (3) the after-effects are reduced to

a minimum; (4) a more complete relaxation is secured than with any other known method; (5) the limits of safety are widely extended, as compared with other methods; (6) a more even plane of surgical anesthesia is automatically maintained than is possible by any inhalation-method—unless administered by a skilled anesthetist using a perfected apparatus.

Not only can this form of rectal anesthesia be used alone, but it is well adapted for combination with a volatile anesthetic. Doctor Guathmey asserts that nitrous oxide and oxygen can be administered in conjunction with it in a larger number of cases and with less discomfort; also a smaller amount of ether may be employed by inhalation; and, when the combined method is employed, a smaller amount of the oil-ether mixture, or a lower ether-percentage, can be injected into the rectum, with the same satisfactory result.

Doctor Guathmey ordinarily uses a mixture of 75 percent of ether with 25 percent of oil; the quantity employed depending upon the size, age, and general condition of the patient. His rule is, to use 1 ounce of the oil-ether mixture for every 20 pounds of body-weight. Thus, for an adult weighing about 160 pounds, 8 ounces of the anesthetic would be required. This is the usual dose for the average patient. For children, a weaker mixture and a smaller quantity suffices. Thus, in children under 6 years of age, Doctor Guathmey employs a 50-percent solution; again allowing 1 ounce for every 20 pounds of weight. With older patients, the strength is gradually increased up to the 75-percent mixture as a maximum.

In addition, he generally introduces into the rectum, thirty minutes before operation, 5 grains of chlorotone dissolved in 2 drams of ether and mixed with an equal amount of olive-oil. At the same time he gives, hypodermically, 1-8 to 1-4 grain of morphine, with 1-100 grain of atropine; the larger dose being indicated only in the case of athletes and alcoholics.

The apparatus required is very simple, being a small catheter and funnel, two small rectal catheters inserted side by side, and a towel placed over the face from time to time to prevent the dilution of the anesthetic in the air-passages. When the patient is satisfactorily narcotized the towel is withdrawn.

The mixture (2 ounces of olive-oil and 6 ounces of ether) is given with the patient lying in bed on his left side, in the Sims' position, a convenient lifter having previously been placed under him. It is not always necessary

that he know that an anesthetic is being administered.

A small catheter, well lubricated, is then inserted 3 to 4 inches within the rectum, and to this catheter a funnel is attached. The mixture then is poured into the funnel very slowly, taking at least five minutes for eight ounces, the usual amount. It is best not to withdraw the tube until the patient is partly unconscious and the muscles are relaxed. From five to twenty minutes (according to the percentage used) should be allowed for the anesthetic to take effect before the patient is moved. Should signs of cyanosis or other disagreeable symptoms appear, 2 or 3 ounces of the mixture should be withdrawn through the small rectal tube. After the operation is completed the rectum is irrigated with cold soap suds, injected into one tube and withdrawn through the other, then 2 to 4 ounces of olive oil is introduced into the rectum and the tube withdrawn.

MORE EXPERIENCES WITH THE BACILLUS BULGARICUS IN THE DIARRHEAS OF CHILDREN

Considering the severity of the cases treated, the results obtained by J. F. Sinclair (*Arch. Pediat.*, July, 1913, p. 529) in the management of 32 cases of acute gastroenteritis and acute ileocolitis are really very remarkable. The children treated ranged in age from 17 days to 2 years. Of the 20 cases of gastroenteritis, 1 was of a mild type, 17 severe, and 2 toxic. All of 12 patients suffering from ileocolitis were desperately ill, with the exception of 4. Several patients were moribund when treatment was begun. Of these 32 patients, 5 died, while 27 recovered.

The essential feature in the treatment of these cases was the use of the bacillus bulgaricus. Under its use, the putrefactive process disappeared and the stools became normal within five days, on the average, while in 7 of the 12 cases of ileocolitis the putrefactive process disappeared entirely and the stools became normal within nine days, on the average. In the entire series of 32 cases, 16 of the children showed an average loss of 8 7-8 ounces, while 12 had gained an average of 6 1-4 ounces at the end of the first week. In the other 4 cases, the weights were not obtainable. Virtually all those who recovered showed a gratifying gain in weight upon their discharge.

In addition to the administration of the bacillus lactis bulgaricus, Doctor Sinclair also

gave an initial dose of castor oil and employed colon irrigation or gastric lavage with normal salt solution, as occasion demanded. Stimulants and other medication were administered as necessity arose. The diet was restricted, most children being put on water or tea, a few being given barley-water, albumen-water or other simple liquid foods of this character. In a few instances, soy-bean gruel was used, while several infants received whey, wine-whey, whey and cream mixture, and buttermilk conserve. In the modified-milk mixtures employed, various diluents were used, sodium citrate being added in some instances.

THE CHEMISTRY OF A CUP OF COFFEE

An editorial writer in *The Lancet* (Nov. 29, p. 1563) gives an interesting résumé of the chemistry of coffee infusion. While tea contains from three to four percent of caffeine and coffee seldom more than one percent, the two beverages are not unlike in alkaloidal strength, since more coffee is required in preparing a cup of its aromatic infusion than are tea leaves for making a cup of tea.

The writer further points out that the caffeine in tea is present in quite different form than that in coffee. In the former, the alkaloid is combined with tannin as caffeine tannate, which is easily soluble in hot water, but not readily so in cold water. In coffee, on the contrary, the caffeine is combined with a peculiar acid, known as caffetannic acid, being allied to tannin, but exhibiting properties different from the tannin present in tea.

This caffetannic acid is not particularly astringent, possesses a sour, coffee-like taste, does not coagulate gelatin, does not make coffee thick as does ordinary tannic acid, nor does it precipitate alkaloids, such as quinine; while, what is of still greater importance, it renders the coffee soluble both in hot and cold water and in acid as well as in alkaline media. As a consequence, the coffee infusion is probably absorbed both from the stomach and intestine, while tea is absorbed only from the bowel; and therefore coffee probably acts more promptly than tea as a stimulant and restorative.

The use of strong coffee as an antidote in poisoning by narcotics is of interest in this connection. Tea also is mentioned for the same purpose, but only rarely.

It is interesting to learn that chemically there is little difference, as regards caffeine strength, between coffee extracts made with

cold and with hot water; but, of course, the latter are more palatable. It is probable that cold water fails to extract certain oily bodies, or fats, which contribute the attractive taste and aroma.

The chemistry of roasting amounts largely to a process of caramelizing, during which certain oils and various aromatic principles are produced through destructive distillation. Roasting diminishes considerably the amount of caffetannic acid. As the writer says: "What part caffetannic acid plays as a dietetic constituent of coffee it is difficult to say, but, if it should prove undesirable, then the high-roasted coffees are less open to objection."

There is little difference between common and the high-grade coffees so far as chemical composition of their infusions is concerned. The percentage of caffeine is about the same in the different varieties, but it is probable that the esthetic values are related in some way to the quantities of the oil bases or aromatic principles present, which vary somewhat in the different brands.

Coffee has practically no food value, of course. However, by diminishing nervous fatigue, chiefly by virtue of the caffeine present, it may increase muscular power. The *Lancet* writer believes that the use of the infusion after dinner is justified in many instances through its stimulant action upon the vital centers. It is said to serve somewhat as an antidote for alcohol and to remove drowsiness. Still, in many subjects coffee may produce drowsiness, quickly followed by marked wakefulness.

REMOVAL OF TATTOO MARKS

Peller (*Dermat. Zeit.*, quoted in *The Pharmaceutical Journal* for September 27, 1913), recommends a new method, devised by himself, for removing tattoo marks. The permanency of pigment granules in the skin in tattoo marks, he states, depends upon two factors: (1) their encapsulation; (2) their distance from lymph paths, especially when the pigment has been deposited in the subcutis. Both these factors tend to frustrate the action of phagocytic cells as well as of transference of the pigment to other parts of the body—for example, to the lymph-glands.

The relative depth of the pigment deposit has always had a very important bearing upon the results of efforts toward its removal: the more superficially the coloring-matter is imbedded, the more easily it can be removed. This, of course, provided there are not further

unknown deposits in the subcutis, which upon decortication and subsequent thinning of the epidermis by caustics, snow or the like, and by the efflux of serum toward the surface, become revealed only at some later date.

The author's method is, to give several preliminary (about six) injections of fibrolysin, with the idea of counteracting the intracutaneous fibrosis brought about by the pigment deposit. He then introduces, as far as possible into the pigment stratum and along the lines of most obvious distribution several sharp-edged needles carrying threads previously steeped for several days in a 50-percent silver-nitrate solution. These threads are brought to the surface beyond the pigment-area, and are allowed to remain, covered with hot fomentations, for two days.

Two conditions of elimination along scientific lines are thereby established: (1) the production of an acute inflammation localized to the pigmented area; and (2) the establishment of artificial channels that open up new lymph paths for phagocytic invasion. The results thus far obtained have been eminently satisfactory and justify the author in recommending the method for more extended trial.

THE HIGH-PRESSURE BOGEY

While the sphygmomanometer is a useful instrument when properly handled, Solomon Solis-Cohen declares (*Med. Rev. of Rev.*, Feb., 1914, p. 73) that, all things being considered, it is not to be compared with the *tactus eruditus* of the experienced physician. Mere dependence upon the fact that the patient has a high blood pressure too often leads the clinician to the use of remedies for the reduction of the pressure, without consideration of the conditions causing it.

As a matter of fact, all the attending circumstances should be taken into account and the cause and effect of the symptoms determined before any form of treatment is undertaken. Doctor Solis-Cohen tells of a woman—one of his patients—with a leaky and irregular heart, who had gone along for some twenty years comfortably with relatively high blood pressure, partly induced by medicinal doses of digitalis.

During the author's absence from the city, one time, another physician was called, who felt alarmed because of the compensatory pressure of 170 mm., and administered veratrum viride. A fatal ending was with difficulty averted as a result of the dependence upon this symptom. "High blood pressure,"

says Doctor Solis-Cohen, "systolic or diastolic or both, is dependent upon many other factors than hardening of the artery or toxic increase of arterial tension; and all these factors must be taken into consideration in estimating both its cause and its significance."

THE MEDICAL TREATMENT OF CHOLELITHIASIS

The attitude of the medical profession is changing rapidly with regard to cholelithiasis. A few years ago the physician who suggested that there might be a medical treatment for this disease was scoffed at—the only thing to do was to send the patient to the surgeon and have the gallstones cut out. That this attitude is passing, is clearly shown in a scholarly paper by H. B. Anderson (*Can. Med. Asso. Jour.*, Jan., 1914, p. 1), who declares that attention is now being directed much more to the fundamental factors of *biliary stasis, infection, and inflammation*, rather than toward the secondary results of these pathologic conditions—the calculi.

Doctor Anderson declares that where good drainage can be secured, so that the stasis, inflammation and infection are relieved without operation, the surgeon's services will not be needed; in other words, so long as the gallstones are present and cause no serious local irritation, they need not give rise to anxiety. On the other hand, if the gallstones continue to excite irritation and the symptoms of infection do not subside, then operation clearly is indicated. Nor is it absolutely certain, as has been held for years by the authorities, that gallstones can not be dissolved. Anderson quotes recent investigations by Hanseemann, which have reopened the question. The latter investigator apparently has proved, by experiments *in vitro* and by transferring gallstones from human beings to dogs, that the calculi "are soluble in normal bile," particularly those composed largely of cholesterol. At any rate, whether they are capable of absorption or not, in more than 90 percent of all cases, as Anderson points out, the gallstones cause no dangerous symptoms; and certainly under such conditions medical treatment has a rational basis and operation is unwarranted.

Gallstones are results, and not causes. The duty of the physician is, to treat causes so far as possible; the more so, since the mortality from gallstone operations is very considerable, ranging from 2-1.2 percent in Mayo's series of 4000 cases to 17.7 percent in the

cases collected by Bland Sutton from English hospital reports.

The nonoperative treatment having the widest vogue is the so-called Carlsbad cure or some modification of it. This treatment consists chiefly in the copious ingestion of hot alkaline waters, in conjunction, sometimes, with rectal injections of hot water. As to other measures, according to Doctor Anderson, the bile-salts and salicylates should be used for their cholagog effects, and urotropin, as a biliary antiseptic, generally proves of considerable value.

It seems to us hardly necessary to add that the method of treatment so long advised in this journal, namely, that of sodium succinate in association with the bile-salts and boldine, is deserving of careful investigation at the hands of the new school of which Anderson is a representative. That this treatment has proven effective, is shown by the experience of many physicians who have employed it with success.

THE ATROPINE TREATMENT OF SEA SICKNESS.

In recent numbers of *The Lancet*, there have appeared several brief articles suggesting the use of atropine in seasickness. For instance, Reginald Pollard states (*Lancet*, Jan. 10, 1914, p. 147) that he has found the hypodermic injection of this drug the most reliable cure he has ever tried. When called to a bad case of *mal de mer*, his plan has been to give 1-100 of a grain of atropine sulphate, repeating this dose, if necessary, in an hour or two. He asserts that often the sufferer will sleep for a few hours (possibly because he has not slept for some time) and then comes on deck and has no return of nausea.

This suggests the combined atropine and strychnine treatment for seasickness so often referred to in these columns and found so successful in many instances. May we be pardoned for referring again to the remarkable success obtained by Davis (a ship-surgeon) with cactoid, as reported recently in these pages?

THE EFFECT OF LACTIC-ACID BACILLI IN DIPHTHERIA

In August last, Wood reported in *The Journal of the American Medical Association* the very satisfactory results obtained in the treatment of diphtheria and diphtheria-carriers with sprays of lactic-acid bacilli. In the February 14 number of the same journal,

page 510, Nicholson and Hogan report 9 cases treated at the Baltimore Municipal Hospital for Infectious Diseases with the buttermilk organism. In a part of these cases, the throat was sprayed with pure cultures of the lactic-acid bacilli of the Bulgarian type; in several, sour milk was used as a spray. The results obtained were very satisfactory—"more pleasing than those from any other methods at our disposal," say the authors.

A small atomizer was employed to distribute the cultures in the nose and throat in 4 cases, while in 5 cases sour milk was used as a gargle for the throat and as a spray for the nose. No antiseptic of any kind was employed. The antitoxin treatment was resorted to in all these cases, the lactic-acid sprays and gargles being employed to clean up the throat after recovery from the acute symptoms. In every one of the 9 cases so treated, the clearing of the throat came about very rapidly, negative cultures being obtained within from one to four days after this treatment was begun.

A CHARACTERIZATION OF TRUE (BRONCHIAL) ASTHMA

Privatdozent Carl Staeuble, of the University of Basle, in a contribution to the *Muenschen Medizinische Wochenschrift* (1913, No. 3), presents a clear characterization of true asthma (that is, the bronchial type, as distinguished from those reflex dyspneas designated as cardiac, nervous, anemic, uremic asthma, to mention the more common ones) that seems worthy of reproduction for its terseness.

In substance, Staeuble says: Asthma is based upon a congenital [inherited] constitutional susceptibility, which consists in a hyperirritability of certain nerve-centers innervating the bronchial musculature and mucosa and intimately connected with the respiratory processes. The bronchospastic and vasomotoric-secretory contraction of the bronchi, in subjects thus burdened, is initiated through many kinds of influences, whereby emptying of the alveolæ is rendered difficult. This leads to a diminution of the pulmonary aeration to the lowest limit of "vital capacity," at the expense of the "complementary" air volume breathed; the residual air is increased (emphysema); and the air-hunger grows. Among the factors inaugurating the attack, the following are included: reflex irritation emanating from the respiratory, gastroin-

testinal, and genital tracts, from the skin, or from the climate or psychic excitement of any kind.

EMETINE IN DYSENTERY

"Emetine as a specific for amebic dysentery and amebic hepatitis," says the editor of *American Medicine*, "is probably the most important therapeutic discovery in recent decades."

That this statement is true, is now becoming generally recognized in America, the same as abroad, where the treatment has been much more extensively employed than it was in this country. However, we are pleased to see that American physicians are at last alive to the importance of Rogers' great discovery.

In three recent numbers of American weekly medical journals, we find as many articles upon the use of emetine in dysentery. The first, and most important, of these is contributed by Edward B. Vedder, of the U. S. Army, to *The Journal of the American Medical Association* (Feb. 14, 1914, p. 501).

Vedder, it will be recalled, made the tests which demonstrated the amebicidal properties of emetine, these experiments leading Rogers to try out the drug clinically. Thus, in 1911, Vedder showed that a solution of emetine, in the strength of 1 : 100,000, would destroy the amebas *in vitro*. In June of the succeeding year Rogers decided to use the drug hypodermically in treating amebic dysentery. Soon afterward he reported two cases of the latter disease and one of acute hepatitis that had been cured with this drug.

Vedder's article gives a splendid résumé of the results obtained with emetine since that time. He shows that, out of 110 cases treated by this method, as reported by 22 observers, 99 of the patients were clinically cured, while 11 died. Of the 11 who died, virtually every one was moribund or beyond help when the treatment was instituted. In 16 cases of amebic hepatitis treated with emetine, as reported by 9 observers, every one was cured. As to the permanency of the cures effected, it is too early, of course, to say; still, it is a significant fact that when the symptoms do recur they are promptly removed by a repetition of the treatment.

In order to prevent the possibility of reinfection, Captain Vedder recommends the use of repeated high colon irrigations with a quinine salt or silver nitrate. This is of special importance, in view of the fact that the disease probably is disseminated by carriers, and these irrigations seem to be the

most certain method of ridding the bowel of the amebic organisms.

The dosage of emetine hydrochloride recommended by Vedder is 1-3 grain, to be given hypodermically three times a day for about ten days. In this manner a large amount of the drug can be administered without inducing serious inconvenience of any kind. Vomiting has never been reported from the use of emetine in this dosage, and the patients feel no general disturbance.

After such a course, if the patient is clinically cured, the treatment should be suspended and the patient's stools watched for the entamoeba histolytica. Recurrence of the symptoms should be the signal for the prompt institution of a fresh course of the same treatment. The tremendous doses sometimes employed by physicians are believed by Vedder to be entirely unnecessary, and he points out that, used in such dosage, the drug even may prove toxic. At any rate, due caution should be exercised in its administration.

DYSENTERY CURED WITH EMETINE

That cases of dysentery arising in temperate climates are not uncommon, and that some of these (whether amebic or not) may be amenable to the action of emetine, is the moral of a report made by Vere G. Webb in *The Lancet* for January 3, 1914 (p. 74).

A man of 30, who had never been out of Great Britain, consulted Doctor Webb for a diarrhea from which he had suffered since childhood. The stools were putty-colored and varied from five to fifteen a day. He suffered from pain and tenesmus and had attacks of bloody stools lasting for weeks at a time. Various diagnoses had been made by different physicians, none of whom had been able to give him any permanent relief.

Thinking that the case might possibly be one of amebic dysentery, Doctor Webb began giving this patient hypodermic injections of emetine hydrochloride, 1-2 grain of the drug being administered for six consecutive days. After the second dose, the number of the stools dropped to one a day and became normal in color and form. At the end of the six days, the improvement was most remarkable. This condition of health has continued, the patient having gained ten pounds in weight. Only on four occasions in more than two months following this treatment has he had more than one evacuation daily. The emetine was the only remedy employed. Doctor Webb is not certain that this was a

case of amebic dysentery; but, even if it is not, he suggests that the drug should be tried in many similar conditions in which the diagnosis is not clear.

CALCIUM AND IODINE IN PNEUMONIA

The leading paper in *The British Medical Journal* for January 10, 1914, is a discussion of pneumonia, by Sir James Barr. Among the many good things in this paper deserving pondering over is his statement that the lime salts are the best remedy to limit the spread of this disease. Sir James declares that, in the acute stages of pneumonia, the more scanty and the more sticky the expectoration, the more viscid the blood and the more lime salts and leukocytes it contains, the more favorable the prognosis.

On the other hand, if the blood is fluid, the expectorate hemorrhagic, and the calcium salts and leukocytes are scanty, the prognosis is poor. This being so, the free use of calcium is advised; such a course also aiding in the maintenance of cardiac contraction and muscular tone.

In all febrile conditions, the blood rapidly parts with its calcium, and in such conditions it is essential that this element be restored. An examination of the urine serves as a good indicator with regard to the calcium metabolism. If the physician finds the calcium salts deficient in the urine and albumin present, he may safely conclude that both the free and the fixed calcium salts in the blood are deficient; and the sooner they are replenished, the better.

The moral of these observations is, that calcium should be prescribed more freely. Various calcium salts are recommended, among them the lactate, the chloride, and the carbonate; but we were particularly interested to learn that Sir James Barr has had especially good results in pneumonia with calcium iodide and tincture of iodine, particularly in cases of pneumonia complicating bronchial asthma. Possibly Barr's hypothesis (it seems to be more than a hypothesis, rather being a real array of facts) will help to explain the highly satisfactory action of iodized calcium, in the treatment of pneumonia, as reported by many contributors to this journal.

Sir James Barr is also a believer in the use of vaccines, especially as a prophylactic and also during the stage of resolution. The calcium iodide is also employed by him during the stage of resolution, with good results. Heart weakness he combats with strychnine, caffeine, digitalis, and, in extreme cases, with

intravenous injections of strophanthin. The temperature is reduced by applications of the ice-bag to the abdomen, while reflex stimulation is secured by means of mustard poultices applied to the affected side. In troublesome cases of insomnia, he not infrequently secures rest for the patient by the use of hyoscyne, morphine, and atropine.

As regards diet, Doctor Barr claims good results from the use of glucose or syrup of glucose and sugar of milk. Milk is an excellent food, but is not always well digested, and, accordingly, should be well diluted when given.

NOVEL TREATMENT FOR RINGWORM: IODINE AND FREEZING

A method of treating ringworm, certainly simple and rational, and which by its author, C. Hughes Foley (*Lancet*, Jan. 24, 1914, p. 241), is asserted to be effective, is described as follows:

The part, having first been washed with a strong solution of sodium bicarbonate, is next swabbed with a piece of lint moistened with spirit of ether—to remove any grease. When dry, it is painted with tincture of iodine and immediately after an ethyl-chloride spray is applied. The author finds it best to work with a pair of ethyl-chloride tubes in each hand, as he thus covers a larger area in quicker time. The deeper the disease-process penetrates, the longer the spray must be applied. Doctor Foley continues spraying until the integument becomes china-white.

It will be found that in from twenty-four to forty-eight hours the patch of ringworm has become quiescent. Next, little tiny spots should be looked for and these treated in a similar manner. They also will disappear in from a few days to a week. In ringworm of the scalp, three or four applications of iodine and the spray are required, but on the face or smooth surfaces one application suffices.

Doctor Foley declares that by the use of this method he has succeeded in curing in a week cases of ringworm that have persisted for months, and thus far it has never failed.

IS IT HUMAN BLOOD?

Biologic discoveries of recent years have made it much more easy to identify the source of blood than formerly was possible, when we depended exclusively upon the size and shape of the red corpuscles, as revealed by

the microscope, to give us this information. At present there are two well-known and reliable methods for identifying blood, and these have recently been well described by Perrin and Thiry in the *Paris Médical* (Aug. 23, 1913, p. 269), from which we quote.

Anaphylactic Test.—The first of these methods depends upon the anaphylactic reaction, that peculiar property of blood-serums discovered by Richet. This reaction is based upon the fact that an animal into which has been introduced a preparatory injection of blood-serum from an animal of a different kind develops toxic symptoms, after the injection of a succeeding dose of this serum from the same source, providing there is an interval of a fortnight or longer between the two injections.

In examining the blood for medicolegal purposes, the guinea-pig is employed as the test-animal. The first, or preparatory, dose of the suspected substance may be almost infinitely small, so that a blood spot on a garment suffices for material. Such blood may be heated to a temperature of 150° C. without destroying the reaction; neither is its anaphylactic activity impaired by drying, by freezing, by age, or by the different chemical agents an assassin is likely to have at his disposal when he is trying to destroy the traces of his crime.

The anaphylactic test is employed as follows: After being assured that the substance to be examined is blood, it is dissolved in a small quantity of physiologic serum alkalized with soda. In order to obviate infecting the experimental guinea-pig with any microbes possibly present in the blood solution, it may be sterilized by heating in a water-bath.

A series of guinea-pigs is now prepared by injecting under the skin or into the heart of each 1 Cc. of the blood solution to be tested. Fifteen or twenty days (not sooner) after this, the second injection is given, which may be made into the heart or into the veins, as preferred.

This second injection-fluid consists of 1 Cc. of the serum of any one of some unrelated animals, such, for instance, as man, cow, pig, horse, dog, and so on. At the same time control animals are given similar injections, in order to make sure that the serum employed is not of itself directly toxic.

If the test turns out satisfactorily, only that animal will present an anaphylactic reaction (usually resulting in death in the case of guinea-pigs) in which the two sera injected are derived from an identical animal. Thus, for instance, if only that guinea-pig

which received human blood-serum at the second injection became sick or died, then we may assume that the blood being investigated came from a human being.

The same test may be employed to determine the source of every kind of tissue or organ. For this purpose, the piece of tissue tested must be finely comminuted and then macerated for a certain length of time in a slightly alkalized physiologic salt solution. Even when the tissue is in an advanced stage of decomposition the test will be reliable.

Precipitin Test.—The other blood-test in use depends upon the fact that a rabbit treated with the blood of an unrelated animal yields a serum that will cause a precipitate only when mixed with the blood-serum of an animal of the same kind; with all other animals, a lytic (dissolving) action takes place, resulting in a perfectly clear solution. The single exception to this is, that the blood of a monkey produces a slight precipitate with human blood. This test has been evolved from the original work done by Bordet and developed by Uhlenhuth, Wassermann, and Schultze.

Here, as in the case of the preceding test, a very minute quantity of the liquid investigated suffices to elicit the reaction. Wassermann and Schultze advise the following procedure:

1. Remove from the suspected fabric a quantity of the material to be examined by lixiviating with 6 or 8 Cc. of physiologic salt solution; (2) filter the resulting liquid carefully; (3) transfer the filtrate, equally divided, into two sterilized tubes; (4) to one of these tubes add 1-2 Cc. of the serum of a rabbit which sufficiently long prior to this has received an injection of human blood; (5) to the other tube—which is to serve as a control—add 1-2 Cc. of the serum of a rabbit that has not received prior treatment; (6) to a third tube, also intended as a control, add 4 or 5 Cc. of the diluted blood of some other kind of animal (sheep or pig, for instance) to which is added 1-2 Cc. of the test-serum used with the first tube; (7) place the three tubes prepared in an oven, and maintain the latter at a temperature of near 37° C.

Now keep watch of the tubes for about an hour; if at the end of that time there appears in the first tube a cloudiness and then a precipitate, while the contents of the other tubes remain transparent, we may feel assured that the material under examination contains human blood, unless, as rarely happens, there is the possibility that this blood came from a simian.

The sole objection to this method of testing

is, that it requires from three weeks to a month for preparing the test-animals.

Blood-Crystal Test.—Recently a third method of testing blood has been made public, this depending upon the fact that the hematin of different genera of animals does not crystallize in the same way. This test is said to be exceedingly accurate, furnishing a highly refined means of differentiating with great precision between the blood from different animals; and this even when the specimen already is in a state of putrescence.

As long ago as 1840 Huenfeld succeeded in obtaining hematin in crystal form; but, although others have worked on this problem, it was left for Reichert and Brown, both of the University of Pennsylvania, to work it out successfully.

Briefly stated, as described in the Carnegie Institution Report, the method consists in first destroying the coagulability of the blood by adding a soluble oxalate. Then ethyl ether is added, which takes up the hemoglobin of the erythrocytes. After centrifuging, the crystals are obtained upon evaporation of the clear liquid. If the specimen is partly decomposed, a slight modification is necessary. Strangely, the hematin test, while not distinguishing between the blood of monkey, ape and man, distinctly demonstrates the difference of the great races of mankind.

THE MEDICINAL ACTION OF FOODS

In an editorial in *The Lancet* for January 24, 1914 (p. 256), we find some interesting suggestions as to the therapeutic possibilities of foods. Thus, for instance, according to Buckland, onions, eaten at night, promote sleep, produce perspiration, and have a diuretic action. They are good for coughs and colds and an aid to gastric digestion. They are also credited with allaying the pains of rheumatism. These properties of the onion are ascribed by the writer to the sulphur contained, in the form of its sulphureted oil, the allyl sulphide.

The turnip, parsnip, and rutabaga contain a peculiar oily principle, which may account for their traditional value as aperients and diuretics, while their juices are an Old-Country remedy for coughs and hoarseness.

It is not alone that the potato possesses decided nutritious value, but it also contains several potent principles, among them solanine, which is credited with diuretic and aphrodisiac properties, and known as a powerful yet safe nerve sedative to the readers of CLINICAL MEDICINE.

Cabbage contains a sulphur compound, which may account for its alleged value in the treatment of scurvy and scrofula. Spinach acts as a laxative, and it also contains a peculiar principle, as well as considerable iron in organic form. The tomato contains a principle which, when taken in concentrated form, produces salivation and acts as a hepatic stimulant. On this account it has been called "vegetable mercury," and we are assured by *The Lancet* that "an official tincture of it is prepared in America." Just in what pharmacopeia "tinctura solani lycopersici" is "official," we shall be glad to have *The Lancet* enlighten us.

Carrots also are said to have a cholagog action; and this humble vegetable is served at certain health-resorts to patients suffering from derangements of the liver. Carrots have also been used as a local dressing, for the relief of pain. This vegetable contains a neutral principle, known as carotin, and a volatile oil, which may explain its traditional curative qualities.

As *The Lancet* points out, many of our common vegetables contain definite active principles, so that the kitchen may reasonably be rated as, to some extent, a dispensary of medicine as well as of foods.

It need hardly be added, of course, that the foregoing remarks apply, not exclusively to the edible parts of the respective plants, but more or less to other portions, not utilized; or, also, to the vegetable at some peculiar (sometimes irregular) period of its development.

NATURE AND TREATMENT OF OZENA

A. Zografides, otorhinologist at the municipal clinic of Piraeus (Athens), expresses his agreement (*Monatsschr. f. Ohrenheilk.*, vol. 46, No. 12), with various authorities, to the effect that ozena is not essentially a bacterial disease, as commonly accepted, but rather a trophoneurosis of the trigeminal nerve; the bacteria present being, instead, incidental, and presumably also the cause of the odor, which is merely a symptom, and not a result of the disorder.

The author's treatment—very satisfactory to himself—consists, principally, in repeated very mild applications of the galvanocautery, for the purpose of producing improved nutrition through the induced local hyperemia; the nasal cavity having previously received a thorough cleaning on several succeeding days. For use at home, he prescribes a calomel ointment of 2- to 10-percent strength.

Miscellaneous Articles

The Margin of Safety in Accidents. Value of Calcium Sulphide

"A miss is as good as a mile."

AS ILLUSTRATING this old saw, as well as for its uniqueness, a brief account of the following case may have some interest attaching to it. It occurred long ago, when I was younger and physically more fit for business than now.

I was on the point of driving out of one of the villages in my field of activities, when, looking up a side street, I saw a man coming toward me, who, observing that I was looking in his direction, suddenly made a motion for me to wait. Instead of waiting, I went to meet him, and then went with him to where his team was standing at the junction of two roads.

On the way, the man told me that he and his son had come to get some oats, about a mile from home, and that, while he was guiding the team and pitched on the sheaves, the boy "made load." Now, as we know, he who stands on a load of oats somewhat resembles the proverbial sinner, in that he "stands in slippery places." The boy stood up all right, until an unexpected lurch threw him on his back and he slid to the ground. However, this ordinarily harmless performance in this instance was varied by an intervening pitchfork standing with tines in the ground and handle upright in the air just where its upper end was excellently calculated to make a temporary resting-place for the boy on his involuntary way to terra firma. Over went pitchfork and over went boy, with eight inches of the former inside of the anatomy of the latter. However, before the father, running around from the uphill side, could reach him, the plucky lad had pulled out the handle. Quickly throwing off most of his load, the father laid his son on the top of the remainder and was on the way home, when I met them.

I found my patient, a lad of fifteen years, lying on the oats in the bottom of the hay-

wagon, looking somewhat pale, but quite composed. There had been no loss of blood and there was nothing but a rent in the scrotum to indicate the nature of the accident. The rate and tension of the pulse were somewhat lowered, but not markedly so. Taking from my pocket-case a dose of nitroglycerin and one of strychnine, I placed the granules on the back of the patient's tongue; then, after telling the father to drive at an easy gait, I hurried ahead in my own conveyance to inform the mother and have a room prepared for the reception of the injured son.

When, in due time, I examined the patient in bed, I found that he had reacted well to the drugs administered on the road. It was revealed that the fork-handle, tearing its way through the left side of the scrotum, had slipped over the arch of the pubis, under the skin and connective tissue, and then, gliding over the tendinous expansion of the abdominal muscles, had penetrated up to the left of and slightly above the level of the navel. When the hurried examination was made on the road, there was nothing external to indicate the route of the fork-handle, but now a red line resembling a mark made by a whip-lash showed plainly the course it had taken. There was a slight serous oozing from the external wound opening, but no hemorrhage.

An inspection of the fork-handle and clothing made it evident that no fragment of cloth had been carried into the wound, nor, in fact, any visible dirt; as any septic or other germs which might have been introduced would, of course, have been beyond reach before it was possible to take aggressive measures, I did not believe then that it would be advisable to inject antiseptics into the channel, nor do I believe so now; so, after putting the external opening in as aseptic a condition as possible and carefully attending to the drainage, I covered the whole area of the injury with dressings constantly kept moist with an antiseptic solution.

Internally, after the bowels were emptied, the patient was given quassine, triple arsenates with nuclein, and calcium sulphide. The latter was given persistently until the patient's breath had become too malodorous for description and his appetite nearly a negligible quantity. At this time the line of redness, which had earlier broadened out and deepened to a dusky hue, had faded out entirely; the oozing had ceased and the external wound was doing well, while pulse and temperature were normal.

The sulphide now was stopped completely; but so also, unfortunately, was the progress of improvement: as the odor faded out of the breath, the red streak on the abdomen returned and an unhealthy oozing, with some drops of pus, appeared. The calcium sulphide quickly was resumed, and in a short time its good effect again became manifest: the redness rapidly faded out once more, the discharge dwindled and then ceased, while the pulse and temperature dropped back to normal.

The bowels had been acting satisfactorily all the time; nevertheless, I gave them a thorough cleaning out with calomel followed by a saline laxative, and the case went on to an uneventful recovery.

It must be admitted that "one swallow doesn't make a summer;" still, this experience forcibly illustrates the value of calcium sulphide—a value long demonstrated to my satisfaction in many other ways.

However, there is calcium sulphide *and* calcium sulphide. If this unstable chemical is not pure and absolutely reliable, unaltered, and preserved, disappointment is likely to result from its use. Therefore—to paraphrase Colonel Crockett's motto—"Be sure 'of your brand,' then go ahead."

It is a fearsome thought that, of the very narrow margin in many accidents between the remediable and those past remedy. Thus, in the case related, had the end of the fork-handle first met the yielding perineum, it could scarcely have failed to slip backward and through the anus. After that, its further course would have made very little difference; whichever way it went, it would have meant disaster. On the other hand, had it slipped only by its own width toward the left, it would have torn through the groin, dividing artery, vein, and nerve—and, after that, in very truth, the deluge.

Such was the case of the other farmer, living in the southern part of my field of service. This man was repairing the stone wall near his house, while grazing in the field

was a bull who was deemed perfectly safe and no attention was paid to his movements. However, at an unguarded moment, the bull, probably merely for play, caught up the man and tossed him over the wall. The result of this elephantine sport was, that the point of the bull's horn plowed through the victim's left groin, tearing open both the artery and vein, and death was almost instantaneous.

A case more nearly like the first one was that of an aged and retired clergyman who had bought a small farm and did much of the work himself. One day, upon arriving at the barn with a small load of hay, he started to slide to the ground—usually a simple feat; but this time it was not a case of "*facilis decensus est*." A stake projecting through the top rail of his hay-rack caught the slack of his trousers, which, giving way, allowed him to proceed to earth with several rents, and the worst one not in his trousers. In fact, when I saw him in his bed, I found him with his testicles entirely exposed, and with, apparently, only a rag of his original scrotum left. I was somewhat used to the retractile and retiring nature of the scrotal membrane, also to nature's generous way in restoring missing tissue in this region, even to the extent of supplying a new covering for the whole pudenda. Consequently I was not much worried by this feature of the accident; and, as the testicles, though entirely bare, were uninjured, I hastened to reassure my old friend and patient—who, however, to all appearance, did not much worry, either.

After getting the wound in condition for closing, I put in the sutures, and when the last one was in place there was no appearance of missing tissue, the only opening being that left for drainage. The further progress of the case was uneventful, and when the last stitch had been removed there was only a narrow cicatricial line to show that there had been any injury. Perhaps my friend's clean manner of life, both morally and physically, together with the help of the fresh country air, had more to do with the satisfactory result than had the doctor.

Showing a similar narrow margin between disaster and comparative safety, was the following case. A youth, during an altercation with an older man, was overcome by an argument in the shape of a pickax in the hands of the latter. It may not be amiss to observe here that one arm of a pickax is fashioned like a cold-chisel, while the other is narrow and drawn to a square point. It was this pointed end of the contrivance, more penetrating albeit not more persuasive,

that was used in lieu of more convincing argument.

This was before the day of the "auto" or of country telephone service, and the parties in interest provided with no conveyance other than that afforded by Mother Nature; consequently some time elapsed before the call for aid reached me. Naturally, I expected to find a person in dire need, but, instead, my patient was sitting up in a chair and appearing much as usual; this in view of the fact that there was a square hole in the top of his head penetrating the skull in the line of the sagittal suture, half way between the occipital and frontal. There was no evidence of concussion or compression or of interference with any of the senses. The sinister symptom of watery leakage through the wound likewise was absent.

Judging by the evidence furnished by the pickax itself, this instrument had penetrated more than half an inch, passing through the inner table of the skull. I once heard of a doctor who probed with a gold pencil through an opening in a patient's skull. (Comments unnecessary!) I also bore in mind the ancient saying that fools rush in where angels fear to tread; and this angelic example of caution seemed to me decidedly worthy of emulation. I did no probing, but contented myself with removing spiculae of bone presenting themselves in the opening, shaving and cleansing the scalp and edges of the wound, and covering the area with moist antiseptic dressings. The patient recovered without having experienced any untoward symptoms.

In a later case, the margin of safety was still narrower. A young man of excellent habits, but with a temper both quick and hot, found himself recovering from unconsciousness and lying in a stall by one of his horses. He either could not or would not make any definite statement of what had occurred just previous to his loss of consciousness. The impress of his body on the stable-bedding showed where he had been lying, and the vomit showed the position of his head.

A wound of the forehead in the median line, cutting through integument and frontal bone, appeared to have been made by the sharp calk of a horseshoe; but, as no one saw it, the exact manner of the happening could not be ascertained, although much could be conjectured from the fact that the man was of the kind who deliberately make their horses afraid of them—something that I never could understand; the gentle, loving whinny with which my horse welcomes my

approach has been too dear to me to be sacrificed for a little extra style and speed on the road.

No one knew that anything had happened until the man staggered into the house. A certain stiffness rather than hesitance of speech, with some confusion of ideas, was all that was evident when I first saw him; and even this soon passed off. No other serious indication appeared either then or later. The local treatment was similar to that used in the case just related and took the same uneventful course to recovery. So, I will not go into details.

My object in telling of these cases has been a twofold one: First, I want to present the evidence furnished by the first on the list as to the value of calcium sulphide as a systemic antiseptic. Second, to illustrate, as they all do, how very narrow often is the margin between safety and fatality.

The treatment adopted in these cases may be open to criticism; still, the issue at least was successful—and the proof of "the pudding is in the eating of it," or, as the Spanish version goes, "*Al freir los huevos, se ve,*" or, Englished, eggs are proved by frying them.

JOHN H. CHURCHILL.

Ridgefield, Conn.

[Doctor Churchill has given us a most interesting report, illustrating the wonderful tolerance of the human body for injury. While methods of treating wounds like these have changed, we think there are few of our readers who, under the circumstances, would do much better—certainly their results could be no more satisfactory. And, fortunately, the conservative methods employed by Dr. Churchill are approved by our best surgeons.

This record of experiences does give us an opportunity, however, to speak of the desirability of using a tetanus antitoxin in wounds of the class described. Doctor Churchill had no such antitoxin, of course, but at the present time it is easily procurable on short notice. One of the principal dangers in the case of penetrating wounds of all kinds, especially when they are soiled with street dirt or stable droppings, is lockjaw. This disease is exceedingly fatal and there is no remedy for it that can be depended upon, once it is contracted. But *it can be prevented* by prompt resort to antitoxin. It's better to "play safe"—even if the percentage of those who contract the disease is very small.

Doctor Churchill is an enthusiast with regard to calcium sulphide. So are we. So

is every man who uses it constantly and therefore knows what it will do.—ED.]

EXPERIENCES WITH THE PAIGE-DETROIT CAR

In response to a request in the February number of *CLINICAL MEDICINE*, I will give you a little of my experience with a Paige-Detroit, inasmuch as I have driven a car of that kind for the past two seasons.

The Paige is a good type of the \$1000-class cars. It is well made, rides easy, looks good, carries five passengers, can make 50 miles per hour, and has many other good points. However, this car also has certain drawbacks, a few of which I will mention, so far as it has not been suited to my work.

When I bought, I tried to get a general-purpose car, one adapted for a family-car as well as for professional trips. My car has proven too expensive, as my record shows (I keep a very careful account of all expenses and mileage traveled) that it has cost 10 cents per mile for each mile registered; being \$304.08 for 2998 miles in 1913, and about the same for the preceding year. About one-half of this expense was for skilled labor (from 50 to 75 cents per hour); ordinary care of the car is not charged against it. We have had no serious breaks so far, and no heavy repair bills. I just had the clutch overhauled and new discs put in, as it had been slipping badly; and the cost for this was, for materials used, \$16.50, and labor, \$16.75. (This goes into the 1914 expense account.) I have had the clutch overhauled twice in every 5000 miles traveled. My experience with the gearing is about the same.

As I have the only Paige car here, I always have to send to the factory for repairs. This takes from three to four weeks, never having been less than three weeks, with the car probably laid up for that time and about two days for two men to take it down and put it together again. My car is a 25-horsepower one (really only 22) and that is insufficient for a five-passenger conveyance for a hilly country; and in consequence we have repeatedly been stuck on upgrades when the car was loaded, while this has happened even when carrying only one person. This lack of power probably in part is responsible for my high repair bills, for when a car is strained to the limit of its power this factor multiplies rapidly. I think the Paige would give better satisfaction in a level country.

For a physician's use, I would advise a light runabout; but, then, some of the low-priced

cars are so poorly constructed that they are constantly giving out while in service and require the aid of a skilled mechanic to get them started again. Before this, I drove a Brush runabout about 3500 miles, but was glad to get rid of it for that very reason, although its upkeep was much less per mile than for the Paige.

We constantly hear of people making a large number of miles with a car at very small expense, but I think they give only the cost of the gasoline and oil, which represents but about one-fourth of the total expense of upkeep; or it may be a new car on level roads and under careful handling; or, also, the driver may be a fair mechanic and do much that the average physician could not do. Providing a sinking fund to replace car when worn out, a 5-passenger-car should run for about 20 cents per mile.

M. F. MINTHORN.

Castana, Ia.

[Every car seems to have its weak points as well as its good ones. Last month Doctor Jackson, of Evanston, who drives a Paige-Detroit—and knows cars well—told us that it was in his opinion the best all-around car for a physician's use on the market. And so it goes!—ED.]

OPERATING A FORD CAR

I hereby submit a brief report on the operating expenses of my Ford runabout, which I purchased April, 1913, and up to January 1, 1914, ran 5300 miles. Following is a summary of the expenditures:

Repairs.....	\$ 35.60
Gasolin.....	57.95
Oil.....	3.25
Hard oil.....	1.20
Tires.....	52.28
Extras.....	3.30
License.....	10.00
Total.....	\$163.58

The original tires on the machine did not prove very satisfactory and wore out in a short time. They were Goodrich tires, but I do not think that the Company allowed me any more than the price of old rubber for them in exchange for new ones, notwithstanding their guarantee for 3000 miles of service, although they did not make more than half of that. The tire item includes one extra inner tube.

In repairs are included batteries, carbide, sleeves, inner liner, and certain other items.

I paid from 15½ to 21 cents per gallon for gasolin, and 40 cents a gallon for polarine oil. Allowing one-third of the cost of the car for deterioration, or \$183.33, this makes the average cost, per mile, 6.5 cents. Our highways are mostly mud roads and the country is very hilly.

H. T. SMITH.

St. Peters, Pa.

A CURE FOR "SCRATCHES"

Regarding the cure of "scratches" in horses, I submit the formula which I have found very satisfactory; taking pleasure in giving it free for the use of the "family." This is it:

Zinc oxide.....	ozs. 1
Ointment of mercuric nitrate.....	drs. 4
Paraffin, made sufficiently soft by the addition of vaseline.....	ozs. 10
Pine-tar (true).....	ozs. 4

Melt together the paraffin, vaseline, and tar at a gentle heat, stirring constantly. When liquefied, keep on the back of the stove and let settle. Rub the zinc oxide into a smooth paste with a little vaseline. Pour off from the sediment the warm (not hot) mixture of paraffin, vaseline, and tar, then add to it the nitrate of mercury ointment, stir until it is thoroughly incorporated. When cool, mix in the zinc-oxide paste.

Before using, the horse's fetlock must be cleaned, and then dried carefully. Now warm the ointment and apply it with a paintbrush, working it thoroughly into the sore. Repeat this application every three or four days. A cure will result in three to six weeks. Snow, slush or water does not interfere with this ointment, while the sores are perfectly protected by it from dirt, damp, and the like.

A. S. THOMPSON.

Hawkesville, Ontario, Can.

THE CARE OF THE HORSE'S TEETH

The care of the horse's teeth seems to be very much neglected; yet, it is very necessary that they should be kept in proper shape—for several reasons. In the city the horse has no chance to live the same as the country horse; so, the city horse needs more attention in every way. From the humane standpoint, the suffering to which a horse is put, by virtue of lacerated cheeks and tongue, is enough to demand attention and correction. It costs more to keep a horse whose teeth are in bad condition, and the animal looks bad. Because it cannot talk, it must go on working as best it can, until the poor beast per chance

falls into the hands of someone who looks after its teeth as they should be.

The way that the horse has of grinding its food causes the outside of the upper molars and the inside of the lower ones to become sharp and ragged. There have been cases where horses have been almost made new by simply fixing the teeth. One such case comes to my mind, where a horse was going to be sold to be killed; but before it got that far its teeth were attended to, and in ten days the owner did not recognize his horse, while in less than two weeks it was put to work at the old job and is still working, and is slick and fat.

Many a time a horse is suffering from the teeth, and the trouble is mistaken for something else. Nothing causes a horse to run down so quickly as when it cannot eat; and if a horse cannot eat and puts the food into the stomach only half-masticated it gives the stomach too much to do, bringing on indigestion and other stomach trouble.

The teeth have a great deal to do with the digestive system, which consists of six organs—mouth, pharynx, esophagus, stomach, small intestine, and large intestine. The teeth are part of the mouth, and the first organ with which the food comes in contact; and unless the teeth are in good condition the food passes into the stomach poorly masticated, causing indigestion and often rendering the horse unfit for service.

Another morbid condition in the mouth often found is elongated molars, this resulting from the molars being injured, when they project, up or down—as the case may be—sometimes being as much as 1 1-2 inches in length; and such an elongated molar even has been known to cut away the opposing tooth and also part of the jaw bone. It is easily seen that this condition is very painful, and the only remedy is, to use the molar-cutter, so as to make that projecting tooth even with the rest. This can be done very nicely.

Split molars is another condition often encountered, being caused by biting on some hard substance or an opposing elongated molar. In this case, the treatment generally is, to remove the split tooth, or the smaller part of it, if not split in the center. Split molars cause considerable trouble, on account of the grain getting down into the space.

Horse's teeth should be examined at least once a year, and if any abnormal condition exists it should be corrected immediately, not alone because of economical reasons, but for



Combined physician's home and office

the comfort of the horse itself, which has served the human family so faithfully for so long. The automobile has not yet entirely displaced the horse; hence, its services still are needed, and the animal is worthy of our best attention. Too much, indeed, cannot be said, or done, regarding his teeth.

As a rule, the horse is willing to do what is required of it, and without complaining. Since the horse cannot speak, it has no direct way of letting us know when its teeth hurt; it either quits eating or begins running down in flesh. And this can be avoided if its teeth are properly taken care of.

J. H. LAMBING, D. V. D.

Chicago, Ill.

BIER'S HYPEREMIA IN GONORRHEAL ARTHRITIS

In the March issue of *THE AMERICAN JOURNAL OF CLINICAL MEDICINE*, page 256, our esteemed colleague, Dr. A. Rose, asks if I have tried Bier's stasis in gonorrheal arthritis. Of course I have, and while it gives fair results in some cases it is very unsatisfactory in others: not only does it fail to cure the condition; it even fails to give relief.

There is hardly a remedy or a procedure that ever fully comes up to the claims made for them by the original discoverer and early enthusiasts. Indeed, there is *no* exception to this statement.

One must bear in mind, however, that

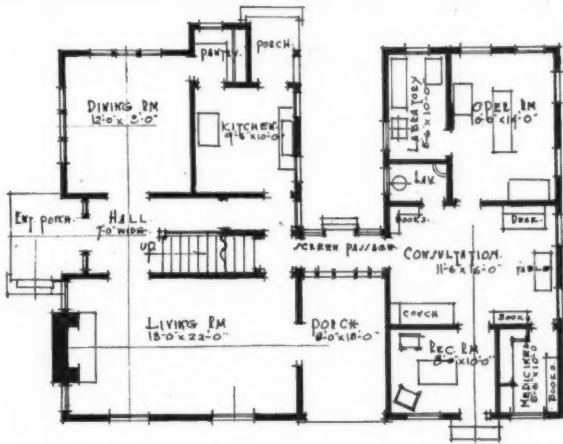
whether it be gonorrheal arthritis, gonorrhea, impotence, or syphilis, it is generally the hardest cases that I get to treat. I generally get old, chronic cases which have gone the rounds of numerous physicians for many months and even years. Recent cases of gonorrheal arthritis may be more readily influenced by Bier's hyperemia than the old, obstinate cases. But then, recent cases are amenable to many other methods of treatment.

WILLIAM J. ROBINSON, M. D.

12 Mt. Morris Park W., New York.

ANOTHER DOCTOR'S HOME AND OFFICE

Mr. Busch has given us a beautiful plan this month of a combined physician's home and office. In this plan the office is entirely detached from the residence, insuring absolute privacy. Patients coming to see a doctor who lives in a place like this will have the assurance that they will not have to run the gamut of the doctor's entire household. The office entrance is at a different side from the home entrance, and if the house is built on a corner, patients will find the office door on a different street. The advantages of such complete separation of the two parts of the building are strongly brought out in a letter from an Alaska physician, which, with a picture and plans of his home, follows this article.



Living rooms and offices connected by screened passage

One great advantage of Mr. Busch's plan is, that it can be made to face either of two ways. For instance, with a relatively large lot sloping toward the street, it might well be built with the long sloping roof to the front, the entrance to the office then being prominently toward the street. With a smaller lot and on level ground the gable ends should be made to face to the front. Also, the house is ideally planned for a corner lot.

Somewhat we feel that this plan should please many a physician who desires to build a home that is simple, dignified, large enough to provide all required conveniences, and particularly adapted to meet professional needs. Such a house should be planned by an architect, and we strongly urge any one thinking of building to write to Mr. Arthur H. Busch, 1306 Gregory Ave., Wilmette, Illinois. Even if you do not intend to build at once write him, and "tell him your troubles."

CALCIUM SULPHIDE FOR PREVENTING SCARLET-FEVER

Here is a little item which may interest the readers of CLINICAL MEDICINE:

I have been using calcium sulphide in my practice for about five years, and with most

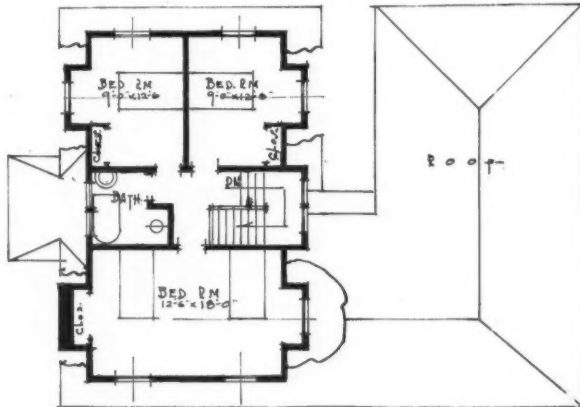
satisfactory results. As an illustration, let me cite one case in which it was employed successfully in preventing disease.

I was called to see a child suffering from a severe attack of scarlet-fever. This child was one of a family of fourteen children. Naturally, they all lived in the same house and much of the time while the child was sick they lived in the same room. As a precautionary measure, every member of the family was saturated with calcium sulphide, and not another one contracted the infection.

If this were a single experience of mine, I might be uncertain as to my diagnosis. However, it is one of many similar observations, not all of the cases, of course, equally as striking. Chicago, Ill.

J. B. Rose.

[We have seen many similar reports, al-



Plan of the second floor

though none where prophylaxis on such a large scale was practiced in a single family. The scarlatina prophylactic vaccine is now being largely employed with excellent success. Where many persons are exposed it should be used—plus calcium sulphide.—ED.]

A DOCTOR'S HOME IN ALASKA

The combination office and residence shown in the February number of CLINICAL



An up-to-date doctor's home in Alaska

MEDICINE prompts me to submit the plans and a picture of my own house. This house was built last summer in Alaska, where building is about twice as expensive as in the States, at a total cost of about \$4700. The contract was let for \$4100, heating plant \$510, extras about \$100. The plan is original, so far as I am concerned, and represents about three months' work at odd times before it reached the point where I could devise no further improvements. I will say that an architect to whom I submitted my plans declared it was architecturally impossible, and designed me a house, "suitable to the dignity and importance of my position," which was to cost \$7000—and was promptly rejected.

The problem of combining an office and residence in a perfectly satisfactory manner at moderate expense is no simple task. Much depends on the extent and character of one's practice, and a great deal more on the tact, discretion and inquisitiveness of one's family. I started with the belief that there should be no question as to whom one wishes to see when he or she calls on a physician. I presume we all have many patients who have no inclination to chat with our wives or fondle our children, and not a few who find it em-

barrassing to be scrutinized by these otherwise unobjectionable members of our household. Then every physician's wife has, or should have, callers who do not want to see the doctor, or to have the people of the neighborhood suspect they are calling on him. Therefore the entrance to his office should be discreetly prominent without being conspicuous; and there should be no possibility of intrusion by members of one's household, or noises in adjoining rooms that would cause a nervous patient to fear intrusion.

Some idea of the construction of the house may be gained from the following brief data: The foundation is a concrete wall, reinforced at the corners with bent-iron rods. The basement floor is of concrete throughout, covered with fir. All floors above the basement have deadening felt in them, which renders ordinary noise inaudible. A soft-tone buzzer, ringing in the dining room when the door of the reception room is opened, and controlled with a switch, warns me of a caller when I am engaged about the house or at dinner.

I will say here that my wife never answers the office bell, never visits with me in the office, never sees a patient unless they come to "her" door, up stairs.

The interior finish is plaster, and all wood-work is of Oregon fir stained and rubbed to a perfectly smooth dead surface.

Many convenient details do not show on the plans, such as built-in tables, book-cases, side-board, medicine-case, clothes-chute, ash-dump from kitchen range, mirror doors in bedrooms, which added considerably to the cost of the house.

MEDICO.

CATS AS CARRIERS OF DISEASE

I clipped from *The Oregon Journal* of February 1 an article (dated North Yakima, Jan. 31, 1914), reporting the deaths of six persons from diphtheria, and the finding of the carcass of a cat under the basement of the home where one of the deaths occurred. It is believed that the cat died of the disease, and blood specimens from the animal have been sent to the city bacteriologist. I have requested the health officer to furnish me with a copy of the report.

This suppositious connection between the

death of the man and the dead cat having transmitted the disease brings to my memory two cases of sickness in which cats were the culprits and suffered the extreme penalty. During an epidemic of measles a neighbor's cat showed symptoms of that disease, so my neighbor says. In the other case, the cat was ours. It was a very sick animal, had sore eyes, shed all its hair, etc. Now, doctor, I didn't buy any drugs to alleviate its sufferings, but administered a 30-30 "H-M-C" to "put it to sleep."

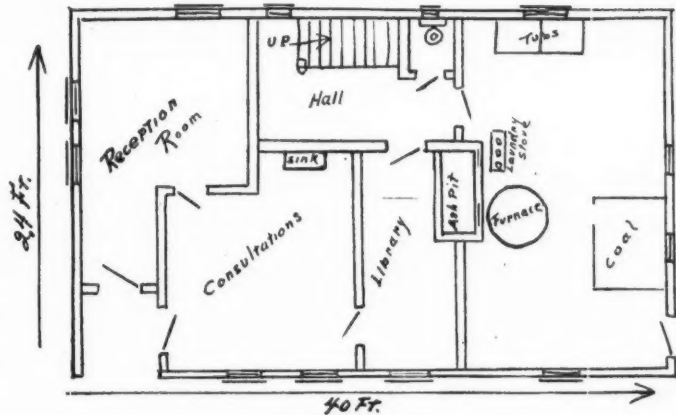
I believe cats are responsible, in thousands of cases, for the transmission of contagious diseases, and wherever such a disease occurs, if there be a cat on the premises, it ought to be killed and cremated.

The typhoid-fly gets a whole lot of "cussing," but I don't know that it is any worse than a cat is for "packing" disease.

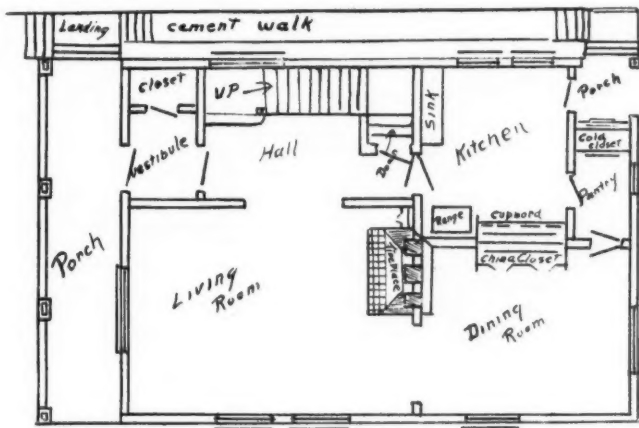
J. CAMPBELL-MARTIN.

Dayville, Ore.

[The influence of the domestic animals as carriers of disease has never been thoroughly investigated. That they may suffer from the same diseases as human beings there can be no doubt. It is also probable that they



Plan of office and basement floor



Plan of first floor

may harbor insects that convey disease, as do rats and ground squirrels. But it is rather doubtful about their carrying disease germs in their fur, as seems to be a rather general idea. However, we agree with Doctor Campbell-Martin that if any family cat becomes sick during the prevalence of a contagious disease in the house where it makes its home the simplest way to deal with it is to "put it to sleep."—Ed.]

ANGINA PECTORIS AND PULMONARY HEMORRHAGE: DR. COPE GETS HELP FROM THE MARCH CLINIC

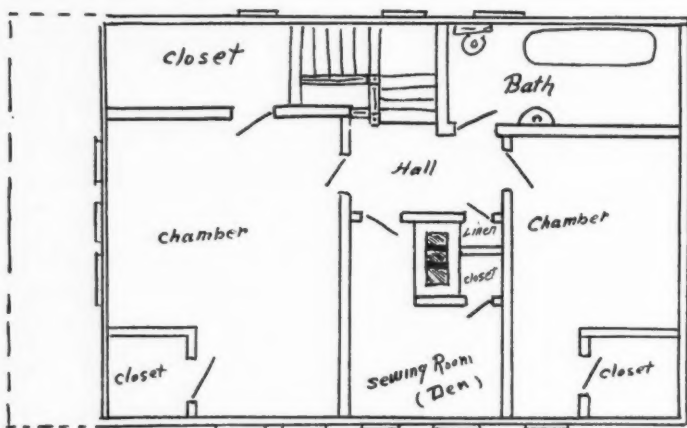
To the CLINIC "family" in general, and to Doctor Abbott in particular, I desire to express my appreciation of the last number of THE AMERICAN JOURNAL OF CLINICAL

The suggestion given by Doctor Waters, of Athens, Alabama, in regard to the use of the defervescent compound (page 261) has now been tried in her case, and with manifestly good results.

But this is not all the good the March number of CLINICAL MEDICINE did me. My youngest son, who is just past twenty years of age, has suffered from the results of infantile paralysis since he was two and one-half years old. This left his left limb paralyzed, and now it is about seven inches shorter than the other and small in proportion. Aside from this he has been well; in fact, an athlete as far as his lameness would allow. Last December he slipped, falling on his left knee (of the lame leg), producing a fracture.

We had him taken in an ambulance to the Harper Hospital. An x-ray picture showed a

fracture of the femur from the greater to the lesser trochanter. A plaster cast was applied and, after twelve hours in the hospital, he was brought home. He made a good recovery, the cast being removed at the end of the fifth week. He has gone about the house with crutches, and lately without them. The



Chamber floor of Alaska home

MEDICINE. For many years it was my custom to contribute a "Thumb-Nail Sketch" from my experience, but of late years I have thought younger and wiser men should occupy the space.

But the March number came so opportunely, bringing to me such helpful suggestions, that I take this method of expressing my heartfelt appreciation.

For many months I have fought for the life of my dear wife through angina pectoris, pulmonary edema and dropsy of the abdomen and limbs. Thanks to the active-principle methods, I have been able to prolong her life years past the time-limit set for her by capable physicians—some of whom have themselves preceded her across the river. They are gone and she yet lives.

weather has been so bad we thought it best for him not to go out, so he has staid closely at home.

Upon Saturday, February 28, he had a hemorrhage, coughing and spitting blood. The loss was not great, so I passed it over and said to the boy: "You probably have broken a small blood vessel in the throat." But every day the hemorrhage returned, and grew more copious every time, until I became thoroughly alarmed and called in counsel. The last hemorrhage was on Friday, March 6. This was certainly the most gigantic hemorrhage I have ever seen, and I have witnessed many during the forty years of my medical experience.

During the trying ordeal, and before the consultants arrived, by a supreme effort I

submerged the sympathy and affection and regard of the father for the son in the big duty of the physician, and recalling the motto on the shield of the old knights of our house, "*Adesto aequo animo*," which being interpreted is, "be ye present with a calm mind," I rallied my wits together and became the imperturbed physician.

Taking up an amyl-nitrite package—that made by Sharp & Dohme, of Baltimore, and which is by far the most complete and satisfactory in use—I had the boy inhale. Also, I had him chew and absorb a 1-30-grain atropine sulphate tablet from the mouth. I also placed him on his face. Then I gave 10 drops of digalen. This unloaded the right side of the heart, by prolonging the diastole, and relieved the lung congestion and made the labored breathing easier.

During all this time I was sending up prayers to God for guidance and wisdom. As the ship at sea in distress sends out by the wireless the code "S. O. S.," which I translate to mean "send out succor" or "send out salvation," so I was sending out wordless messages for help.

Just then the doorbell rang. I went to the door, but it was only the postman. There were no letters or mail in the box, but on the door-step was a magazine. I tore off the wrapper and lo! it was the March number of *THE AMERICAN JOURNAL OF CLINICAL MEDICINE*. Glancing through it rapidly, my eye encountered the article on "Emetine for Hemorrhage." This, I said, is the answer to my prayer. Who but God could have timed the coming of this news to me?

I had no hydrochloride of emetine in liquid nor have I yet found any here in Detroit, as it is new here. But I did have several hundred 1-64-grain granules of emetine, made by The Abbott Alkaloidal Company. I at once gave the boy 18 granules, and in four hours repeated the dose. After twelve hours I lengthened the dose to ten granules, and gave them eight hours apart. Since using this remedy there has been no further hemorrhage.

Do you wonder now that I am thankful to our Heavenly Father for so marked a manifestation of His watchcare, and to the CLINIC "family" for the medium through which the blessing came. I take no praise in this. I am like Ambroise Paré in whose writings we so often encounter sayings like this: "I dressed the wounds of the soldiers and the Lord healed them."

I, too, prescribe for my patients to the best of my ability, and the Lord heals them.

When my consultants arrived, there was nothing for them to do but to try to ascertain the cause of the hemorrhages. This they were not fully certain about; but the lungs were declared to be normal. The only solution given was, hemorrhage from the stomach. There has been no fear or pain. The appetite is good. The patient is cheerful. He would get up if permitted, sleeps well, and to all appearances is in good physical condition. There had been absolutely no prodromal symptoms of anything. To me it acted like a traumatism, but what caused it is a mystery. All I can state positively is that the hemorrhage stopped and has not reappeared.

How can I ever be grateful enough for the timely coming of our journal?

The Good Book says: "He that goeth forth bearing precious seed shall doubtless come again bringing the sheaves with him." Here, Brother Abbott and the "family," is the first ripe sheaf of the March number, bound about with the tender testimonials of grateful hearts. I wish this communication might appear in the April number that all may rejoice with us.

I could fill pages with stories of the good that has arisen under my hands by the use of the active-principle measures. Reverting again to the scriptures, we are told "that in the midst of it is the tree of life whose leaves are for the healing of the nations." Did it ever occur to you that in our animate bodies is the tree of life, whose leaves are the capillaries and that well being, or ill being depended on the correct filling and flushing of the capillaries, or the reverse?

Atropine, hyoscyamine, and the nitrites when properly used dilate the capillaries. These are the great standbys in the stress and storms of illness.

Another instance and I am done. Please pardon an old man for this "much speaking."

I was called to a patient thought to be dying from insolation (heatstroke), weak heart, and previous exhaustion. There were the Hippocratic countenance, the blue finger nails, the shallow breathing, the death rattle in the throat. Hastily crushing a granule of nitroglycerin (glonoin) I placed it on his tongue. Then a few seconds later I placed there a crushed granule of hyoscyamine. Taking a teacup of hot water I stirred in enough powdered iodized calcium to make it thicker and blacker than ink. I succeeded in getting the patient to swallow, as the other medicines had sent the blood flying back to the capillaries like "deer at the blast of the

hunter's horn." A few doses, and the free iodine cut short the death rattle. The patient got well!

C. S. COPE.

Detroit, Mich.

[Old subscribers to CLINICAL MEDICINE will remember Doctor Cope, who practiced his profession in Ionia, Michigan, for many years, and was long a frequent contributor to the CLINIC. Doctor, there are thousands of us, all members of the "family," who will rejoice with you in the speedy relief afforded your son. No wonder the hand of Providence seemed to be in it.

Somehow we believe that every number of the journal carries a *personal* message to many a man who reads it, and that it is the means of saving the lives of many in the families of physicians, as well as their patients. After all, the principal function of a medical journal is *to give help*. That's what we are trying to do in CLINICAL MEDICINE—give you help.

Emetine hydrochloride is a most interesting remedy. It seems that we are just beginning to realize its possibilities. That it will cure cases of tropical dysentery in one week that have persisted for months or years now seems well established. And now comes the assurance that it is an effective, in some cases an almost marvellous, remedy for the arrest of hemorrhage. Quickest results are obtained when it is given hypodermatically, although the result obtained in Doctor Cope's son leaves nothing to be desired.—Ed.]

A WOMAN'S NUMBER OF THE MEDICAL REVIEW OF REVIEWS

The May issue of *The Medical Review of Reviews* is to be a Woman's Number. All the articles contributed will be from the pens of women physicians whose work has achieved national importance. With the growth of the feminist movement, the economic position of women has attracted universal attention. As medicine was practically the first profession open to women, it is only proper at this time to consider whether their entrance into the medical profession has been of benefit.

In order that women may present testimony by which they should be judged, it has been deemed advisable to give them an entire issue to present the evidence of the value of their accomplishments. In the laboratory, in the hospital, in institutions, at the bedside, and in public service, women physicians have

performed a valuable function. As a tribute to their earnestness, enthusiasm, modesty, energy, perseverance, and scientific acumen, the May number of *The Medical Review of Reviews* will be dedicated to the women physicians of America.

DO YOU WANT TO GO TO LONDON

This year the Clinical Congress of Surgeons of North America is to meet in London, by special invitation from the London hospitals. It is expected that a great many American physicians will be in attendance. The meeting is to be held July 27 to August 3.

The rates for this trip are very low. Numerous side trips are being arranged for the convenience of American physicians who wish to see Great Britain and the Continent. Better go, Doctor. It is a fine chance to see Europe in good company, also to see how our brethren of the scalpel do things in England.

If you are at all interested, drop a line to the editor of CLINICAL MEDICINE. He may be able to give you some help and advice. Maybe—it is only a "maybe"—if enough men go along he can get a free ticket for himself. Write us, anyhow.

INSIDE MANAGEMENT AND OUTSIDE CONDUCT OF MEMBERS OF COUNTY MEDICAL SOCIETIES

In 1876, I joined a county medical society, and everything moved along smoothly until the fee-bill and medical ethics were brought forth for discussion. The president of the Society was a kindly hearted man and withal ethical in conduct. He had the cream of the practice, charged good fees for his work, and was acknowledged to be the leading physician; but he held to the idea that all calls should be attended to, whether paid for or not.

The younger members (of whom I was one) were not in harmony with this view. They thought, a person who would employ A this year, B the next and C the third, and never pay either A, B or C, ought to be reported as a deadbeat. So, this younger set introduced a resolution that all members who knew of any such deadbeat should report his name to the society. The president opposed this resolution, saying that it would work an injury to some unfortunate but good woman who happened to be the wife of the fellow.

We tried to convince the president that our resolution was not intended to prohibit any

member from attending any deadbeat or members of his family, if he so desired; all we wanted was, to inform our members as to the character of unworthy men in the community. This explanation, however, only seemed to irritate the president, and he gave us to understand that he would resign rather than be president of a medical society with such a resolution in force. Warming up with enthusiasm, he continued:

"Young men, I have been in the ditch and got out the best I could without anyone to tell me who were or were not deadbeats. I worked for the man in the hut without getting pay, and afterward was called to the mansion, where my pay was ample. I have succeeded, and you can get out of the ditch without any help from me."

He did resign. The secretary thought that the president was right, and, he, too, resigned; thus leaving us younger members crestfallen, but by no means subdued. We still thought that the deadbeats ought to be reported, and we put on record all those we knew of. A few days afterward the worthy ex-president accosted me and said, "See here, Howle, I have cooled down. I have reconsidered that resolution and have become convinced that there is more in it than I thought; I want to turn one of those deadbeats over to you."

It appeared from his narrative that he had a patron deeply in debt to him and that the latter had offered to paint his house in payment of the bill. The joker, however, came to light when our friend presented to the contractor this patron's receipted bill in payment of the painting-account, for there was nothing coming to the painter, as the latter had been drawing wages from week to week. But my answer was:

"No-sirree, Mr. President, you can not turn this deadbeat over to me; I got acquainted with him for a dollar, and I should have put you wise as to his character if only you had allowed me to do so."

I could tell you more about this same ex-president, but this illustrates some of the inside work in county medical societies. This doctor prided himself on his kindness to his patrons, but was not willing to help a beginning young doctor. He was jealous and gave us the "cold shoulder."

Do you know any successful old doctors doing their best for a young competitor? Ethics! Ethics! It seems to me that I have heard of this term, but I am not certain of its meaning. My experience is, that it is, or was, something that was intended to unite and keep doctors in harmony, and its foun-

dation was upon the principle of the "Golden Rule"; but, for some reason, instead of cementing the profession it (or is it lack of it?) pushes them asunder, rendering them enemies instead of friends.

Our county society has been a success, in a way. We had a fee-bill and a delinquent list (blue-book), and for a time the pay was much better and everything went smoothly; but recently there has been a cutting of fees and a falling off in membership, and it seems that we are about to go under. I have an idea as to why, but my views possibly would do more harm than good, so I await further discussion of county medical societies.

W. P. HOWLE.

Charleston, Mo.

SUCCESSFUL DRUG THERAPY

I have lived a reasonably long life; fifty years of which have been devoted to the practice of the healing-art. During this period many theories have arisen and many practices inaugurated which have, severally, either been relegated to the "scrap heap," or else have been almost completely rejected. Yet, notwithstanding, this neglect is not justly because of a want of merit, but rather is owing to the fact that the early claims for them were much exaggerated, and which later extensive trials failed to establish.

One form of therapy there is, though, that has not failed to "make good"—that is, alkaloidal medication. This form of drug treatment is steadily gaining ground in the favor of the profession, and there are good reasons.

Every crude drug found in the vegetable kingdom contains one or more active principles, some of which are antagonistic one to the other (that is, with respect to their application to diseased conditions). I need allude only to the crude drug digitalis for confirmation of this statement.

Every physician, when he administers (rightly or wrongly, as the case may be) morphine, cocaine, atropine, caffeine, quinine, or strychnine, is practicing alkaloidal medication. And this many do while they condemn the system. This largely is because of want of thought and their being harnessed to a routine practice acquired from their teachers.

The alkaloidal, or dosimetric, system is not claimed, by its advocates and followers, to be a perfect "cure-all." We do hold, however, that these medications are specific for certain abnormal symptoms of the body if they are

produced by morbid conditions. Yet, this does not make them specific for any individual specific disease, as a whole.

We have long held and believed that successful medication depends mainly upon an adequate knowledge of the morbid condition manifested by the symptoms in any given case.

Diagnosis is our hobby! Correct diagnosis followed by active-principle treatment spells success.

Now, alkaloidal medication ordinarily is confined to the use either of granules or of tablets of recognized minimum doses for the adult; and by this means we obtain uniform results. I will qualify this statement:

There is no recognized dose; for no one at the initiation of treatment can know how much of a given remedy will be required to produce a favorable result or to relieve a symptom; in consequence, minimum doses may be given and repeated at frequent intervals until the desired effect, remedial or physiologic, is produced.

Now, in many diseases we find, and resulting from them, partial paralysis; and heart failure frequently occurs.

All physicians, of all schools, recognize and use one principal medicine as a specific in these conditions, namely strychnine. In fact, no drug is known that is its equal in the stimulation or exaltation of vital functions; hence, its use in indigestion, torpid bowels, heart failure, paralysis, and so on. In lethal doses, it kills by exaltation and spasm.

There is another advantage that alkaloidal medication possesses over galenical preparations, and it is this:

Every practicing physician using galenical preparations is aware that no reliance can be placed upon a uniformity of strength of any tincture or extract of any drug he may desire to prescribe. They well know that these preparations vary in strength and therapeutic efficiency. They have proved, from time to time, that some fluid extracts of ergot for example, are twenty times as strong as others, or that some of cannabis indica are from two to fifty times as strong as are other samples.

Do we find the plant principles—morphine, quinine, strychnine, digitalin, atropine, and the rest—varying in strength or efficiency? Rarely.

And there is another advantage of alkaloidal medication, namely:

With the alkaloids, we need not wait until we have made an accurate diagnosis; we can begin medication at once, according to

symptoms, in the hope of checking the progress of the complaint. This phase was well illustrated by a case when a man was brought to my office from a village on the opposite side of the St. Johns River. From the symptoms presented, we believed it to be an attack of typhoid fever; we therefore furnished medicine and instructions to meet these indications. Having given up making calls, we did not hear from the party for six weeks; when a message was brought that the patient's complaint was typhoid fever, from which he had suffered five weeks, and that the physician in charge had stated that "if it had not been for his [my] preliminary treatment the patient would have died!"

In the treatment of infectious diseases, the *materies morbi* never is lost sight of, and every endeavor is made to eliminate and neutralize it. In other words, we strive to render the soil (so to speak) uncongenial to the microorganisms and the ferments that give rise to many complaints. For this purpose, I use calomel, the sulphocarbolates, and arsenite of copper. Such treatment may be called the "dominant treatment," because it is directed against the cause of the disease.

While our diagnosis still remains incomplete and we do not know the cause, we have to treat the dominant or prominent symptoms. Any concomitant symptoms arising during the course of the disease, such as pain, diarrhea, vomiting or insomnia, require what is called variant treatment. This treatment is limited to symptoms and is discontinued as soon as relief is obtained, while the dominant treatment is continued as long as the disease lasts.

For example, we have a case of malarial fever and it is ushered in with a chill. First we administer atropine, in order to flush the capillaries and thus relieve congestion and abort the chill. This has also the effect of shortening the fever; to relieve which we give aconitine, or defervescent compound or acetanilid.

Now, fever means undue oxidation, which is a destructive process.

There is absolutely no cause to fear evil results from administering alkaloids for disease according to Burggraeve's method.

Hence, we can see no reason why physicians should prefer to administer crude drugs, or their tinctures or their extracts of unknown and variable quantity and subject to substitution in the compounding of their prescriptions, when they can have supplied them in granules of all the active principles of known strength and uniform action, and

prepared by manufacturing chemists of known reputation.

A. T. CUZNER.

Gilmore, Fla.

DO YOU WANT TO GO ABROAD?

Any doctor who, in company with his wife, wants to make a trip to Europe and combine pleasure with the learning of a foreign language cannot do better than correspond with Dr. Charles F. Mills, South Framingham, Massachusetts, who is planning a holiday trip to France, Switzerland, and down the River Rhine. A French teacher will be taken along, who will give a practical course in conversation in French, without additional expense. The idea is a novel one and should appeal to many.

HYPODERMIC IRON

I have just read the article by Doctor Servoss on the subcutaneous injection of iron, appearing in October, 1913, *CLINICAL MEDICINE*, in which the intravenous injection of it is discussed. This leads me to say that I have been using an intravenous solution containing 2 1-2 grains of soluble phosphate of iron and from 3 to 8 grains (as desired) of the cacodylate of sodium. The way my anemic and neurasthenic patients rebound to normal health is quite wonderful.

I am thinking that, altogether, we need more information on the intravenous use of drugs; it really is quite surprising how the blood stream takes care of substances thrown into it.

W. N. FOWLER.

Kalamazoo, Mich.

[We agree with Dr. Fowler that this method of giving medicines should receive more attention. We invite the experience of every physician who may read this number. Let us know just what remedies you use in this way, what reactions follow, and the results, good or bad.—ED.]

THE LARIMER (COLORADO) COUNTY MEDICAL SOCIETY

The Larimer County Medical Society met in the Y. M. C. A. building at Fort Collins, Colo., on February 5. Drs. Rew, Kickland, Hoel, Quick, Schofield, Taylor, Halley and Stuver being in attendance. There also were present, as guests, and participating in the

discussions, Mr. Schantz and Mr. Thorman, local pharmacists, and Dr. O. L. Smith, dentist.

Doctor Stuver read a paper entitled, "Should the Physician Dispense His Own Medicines."

He first called attention to the persistent efforts that are being made by the retail drug associations to secure representative legislation that will hamper and even prevent the physician from dispensing his own medicines to his patients. He insisted on the importance of the physician being properly trained in chemistry, materia medica and therapeutics, and then be given the right to choose whether he will dispense or prescribe his remedies. He discussed the question under the three aspects of the interests of the patient, the physician, and society.

Under the first heading, he showed how the welfare or even the lives of many patients would be jeopardized if the physician were not permitted to dispense medicines for them when first called to see the case; how by prompt and efficient treatment many diseases can be aborted, their course shortened or their symptoms greatly alleviated; and how patients living in remote country districts would be greatly inconvenienced and their lives often endangered if the physician did not go prepared to furnish medicines to them.

Under the second heading, the effect on the physician, he showed how dispensing his own remedies caused him to make a more careful study of their chemical composition, physiological action and therapeutic effects, as well as making him a closer observer of the symptoms of the various diseases he is called upon to treat; how it brings him in closer touch and sympathy with his patient and enables him to maintain a better control over his actions and the disease under treatment. The charge that physicians buy and furnish their patients with cheap and inferior drugs was shown to be, not only untrue, but puerile.

Under the head of the effect on society, he showed how prescribing and the unauthorized filling of prescriptions led to self-drugging and neglect in the proper treatment of diseases in their early stages; also that fifty percent or more of the habitués of morphine, cocaine, and other narcotic poisons are caused by placing prescriptions containing these drugs in the hands of patients and permitting them to be refilled by the druggist.

Mr. Schantz had a very good paper on the druggists' side of the question, in which he laid great stress on limiting all prescribing to the Pharmacopeia and having the pre-

scriptions filled by a druggist. The papers brought out an animated discussion in which nearly all present took part.

All agreed, even the druggists, that no restrictions should be placed on the physician dispensing in emergencies; and it was generally conceded that he should have the right to do what he thought was best for the interests of his patient. On the general question of dispensing or prescribing, some favored one plan, others the other. The use of active-principle medication, as so ably advocated by Dr. W. C. Abbott and his coadjutors, and used by about 40,000 physicians in the United States, was favorably spoken of by several.

E. STUVER.

Fort Collins, Colo.

DO YOU WANT THE INDEX?

We have ready for delivery the copies of the Index for this journal for the past year, 1913. In many respects this is the most complete and carefully prepared Index we have ever put out. Every doctor who binds his journals—and everyone should—ought to have a copy. It will be sent free to anyone upon the receipt of a postcard request.

Do it right now!

BARRIERS

Political economists used to say, "People are separated by rivers, mountains, seas, and mutual dread." One by one these barriers have been conquered. Witness some notable examples—the Suez Canal, the St. Gothard Tunnel, the Simplon Tunnel, the Brooklyn Bridge, the Panama Canal. The completion of each one marked a distinct advance in civilization and human welfare. Note also the names of Watt, Fulton, Morse, Bell, Marconi, Wright, Goethals—barrier-removers, all!

Strange to say—very strange, indeed—the greatest barrier of all, a barrier infinitely more wasteful of human energy and time than a trip around the Horn or a detour of the Alps, still remains to hamper progress and to impose a burden, needless and heavy, upon mankind. Stranger still, this barrier was not even recognized as such by our leading men—hence, they passed it by and attacked the lesser ones.

This big barrier stands, mountain-like, between the producer and the consumer, challenging another Fulton or Marconi to

action. Burleson, favored by the fates, is in a position to demolish it with one stroke of the pen! This conquest, unlike the others, will require no vast treasure nor sacrifice of life, nevertheless the task will demand the courage of a Wright and the unconquerable perseverance of an Edison!

What is the barrier? Let me illustrate by personal experiences. I have an orange-grove in Florida and a cherry-orchard in Michigan. The barriers between me and the consumer are the same whether in the north or in the south. They are not peculiar to fruit-growers, either, but are common to all producers—hence, the orange will serve as a true type for illustration.

When this fruit commands \$1.00 a case in Florida, my northern friends must pay \$5.00 or \$6.00 for a case. In other words, *it costs four or five times more to carry an orange over the barrier than it does to produce it.* This absurd and unnatural condition, owing to a marketing system inordinately expensive and inefficient, constitutes a barrier much more wasteful of human energy and time than a trip around the Horn; the Alps are a mere ant-hill in comparison.

Burleson, our postmaster-general, can demolish this barrier. How? Simply by raising the parcel-post weight-limit to 100 pounds and lowering the tariff to an actual-cost basis; establishing a rate of 50 cents a case on oranges from Florida to New York, Chicago, and intermediate points, with C. O. D. privileges included, and a similar rate for all other products.

This would enable the producer to deal directly with the consumer, and thereby eliminate the barrier. Then the consumer would pay \$1.50 instead of \$6.00 a case for oranges, and for all other foods in proportion.

No, such a plan is not impracticable. Consider a train of ten cars running on a passenger schedule from Florida to New York, carrying 300 cases to the car, or 3000 cases in all. At 50 cents a case, the train would yield a revenue of \$1500 for a 35-hour trip. This sum would pay the railroads generously and still leave enough for local delivery.

In its perfected form, this plan would require a clearing-house, or postal market, operated under the auspices of the post-office, in which all foodstuffs would be handled *in standard packages*.

You know the usual objections to such a plan; you also know with what stubborn ferocity the plan would be assailed by influential men who now control the barriers

and derive a profit therefrom, hence, you will understand why I said, "The task will require the courage of a Wright and the unconquerable perseverance of an Edison."

Bear in mind, however, that this plan is absolutely correct from a scientific standpoint, and for this reason its adoption is assured sooner or later.

Bear in mind, also, that the greatest engineering-work ever attempted has just been brought to a successful completion by a public official. In view of this fact it would simply be idiotic to assert that a public official could not manage successfully a petty enterprise like a postal market, especially when assisted by the splendid delivery-service already in operation.

Carrying the finished product to the user—a dunce's job—is easy and simple compared with making the article. *The postal market would exemplify this fact with crystal clearness, and would establish a correct and natural relation between the cost of producing and marketing—a thing hitherto an impossibility, owing to the heavy charges affixed by a horde of middlemen. Furthermore, the prompt and rapid delivery through the postal market would entirely prevent damage from decay, at present a source of great loss and a large factor in the barrier.*

The "Big Barrier" beckons Burleson on to instant action. The task is not an easy one, for the inertia of custom is greater than that of granite. Burleson, however, can overcome it, if he has the courage to suffer the hardships and trials every pioneer must endure. Will he join the other immortal pioneers, the famous and beloved barrier-removers, Watt, Fulton, Morse, Bell, Marconi, Wright, Goethals?

The post-office now saves the people 7 cents on a 10-cent sale, furnishing for 3 cents a package of envelopes which sell for 10 cents in the stationery stores. There is no good reason why this saving-principle should be limited to envelopes. The postal market would extend it to foods of all kind, and would furnish for 15 cents a dozen oranges that now sell for 60 cents in the grocery-stores. Here is the key to "High Prices," and the only rational remedy therefor.

Establish a postal market and a postal express.

R. L. GREEN.

Notre Dame, Ind.

[Another "barrier" that should be removed is the prohibition of the mailing of poisons. As the Postoffice regulations now stand

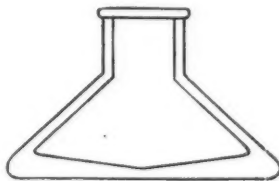
practically all hypodermic tablets and most of the potent remedies, such as strychnine, morphine, mercuric chloride, arsenic and aconitine are unavailable. Write the Postoffice Department and your Congressman. Demand that this "barrier" to the doctor's full purchasing power be removed.—Ed.]

A CORRECTION

Through an oversight in proofreading, the name of Dr. T. H. Standlee, whose article upon "Guatemala, The Metropolis of Central America," appeared on page 272 (March number of CLINICAL MEDICINE), was misspelled. Kindly see that this correction is made in your own journal, spelling as above.

WANTED: A BOTTLE!

I have been in the doctoring business for over ten years and I have always dispensed my own medicines. My favorite dispensing containers are the 1-, 2-, and 4-dram homeopathic glass vials. But, much as I have used them, they have never been satisfactory, and I still continue to hand them out to my pa-



Dr. Rowlands' suggested bottle

tients simply because there is, so far as I know, nothing better on the market at present to use in their places. Few of these vials have perfectly flat bottoms, many being so rounding or slanting that they will not stand upright. Others are imperfect, with blow-holes in their bottoms, cracked, or so thin that they crush easily in the pocket. Most of them have a bottom which is convex on the inside, making it difficult to extract the last drop of a liquid medicine with a dropper. Then, again, the ordinary homeopathic vials are top-heavy when filled and are forever toppling over and spilling the contents.

I have designed a bottle that is cheap and serviceable and at the same time built in a manner to obviate all the foregoing difficulties. Note the cut. You see, the vial, made of thick glass, is shaped like an ordinary ink-bottle, big at the bottom, and with a depres-

sion in the center which will hold the last drop of any liquid dispensed in it. If the bottom were made in an elliptical shape, it would be handier and not appreciably less stable. I believe that a bottle of such shape, made up in the sizes named above, would find a ready sale. What manufacturer is willing to make the venture? I'll take a gross and give them a trial.

EDWARD G. ROWLAND.

Oakfield, Me.

[The trouble with the doctor's bottle is, that it would be expensive to make, hard to ship (breakage would be high), hard to handle (it is an awkward shape), and would take up a lot of room as compared with the ordinary vials.—ED.]

A VICIOUS AMENDMENT TO THE HARRISON ANTINARCOTIC BILL. TIME FOR THE PROFESSION TO ACT

We stop the presses to get into this issue of CLINICAL MEDICINE a matter which vitally concerns every physician, veterinarian and dentist in the United States. We have just received information, from Washington, of the introduction of the half-expected eleventh-hour amendment to the Harrison Antinarcotic Bill.

This amendment, introduced by Senator Knute Nelson, of Minnesota, not only wipes out every concession to the physician, but is so worded that he is grossly discriminated against, to the advantage of the retail druggist and the patent-medicine vendor. By a rigid construction, it might actually prohibit the physician from dispensing any drug or any combination or mixture of drugs containing opiates or other so-called narcotic remedies unless he personally administered them to his patients. Also, it would compel the physician to keep a record of the names and addresses of all persons to whom he might administer any narcotic drugs, and the dates on which said remedies were given.

This latter requirement is so drawn that no matter how small the dose, what the form, what the combination, or what its purpose, these records must be preserved "for a period of two years from the dates thereof, in such a way as to be readily accessible by the officers, agents, employees, and officials of the Government." One class of remedies is excepted—a significant one, to which we shall refer later.

As originally passed by the House of Representatives this bill provided that it should not interfere with the

"dispensing or distribution of any of the aforesaid drugs to a patient by a physician, dentist, or veterinary surgeon registered under this Act

in the course of his professional practice only: Provided, however, that such physician, dentist, or veterinary surgeon shall personally attend upon such patient."

This section was amended in the Senate (amendment introduced by Senator McCumber) so as to read as follows:

"Nothing contained in this section shall apply—(a) To the dispensing or distribution of any of the aforesaid drugs to a patient by a physician, dentist, or veterinary surgeon registered under this Act in the course of his professional practice only: Provided, That such physician, dentist, or veterinary surgeon shall have been specially employed to prescribe for the particular patient receiving such drug or article; and, provided further, That such drug shall be dispensed in good faith, and not for the purpose of avoiding the provisions of this Act."

Senator McCumber of the Finance Committee was fearful that according to the original wording of the bill (it required personal attendance) the law might be interpreted as forbidding the physician to send by messenger to a patient ill at a distance remedies needed for immediate relief. He placed this objection before the members of the National Drug Trade Conference who called upon him at the time of the meeting of that body in February. It was accepted as satisfactory to the members present at this conference. It properly protects the rights of the physician. (See editorial, page 292.)

The Nelson amendment strikes out the words "dispensing or distribution" in the section just quoted, inserting the word "administration" in lieu thereof.

It so changes the meaning of the bill that the doctor is now to be permitted to administer narcotics only in person. Even as originally passed, and in the form objected to by Senator McCumber, such remedies might be given by others under his supervision. Even this right is taken away.

If this amendment is accepted it becomes an offense against federal law for the doctor to send a cough tablet, a throat lozenge, an antispasmodic for asthma, or an anodyne for the relief of diarrhea, neuralgia, or any other painful condition to a patient through a third person; and it is a serious question whether he can legally place such remedies in the patient's own hands.

In effect, it legalizes the doctor's use of the hypodermic syringe while rendering it illegal for him to dispense medicinal forms requiring repeated doses. Nothing more drastic or more dangerous to the medical profession has ever heretofore been proposed.

What is the source of this amendment? Of course it did not originate with Senator Nelson. The answer may be found in the *Journal* of the N. A. R. D., which in its issue of March, 24 in an editorial urging its

readers to insist upon certain legislation, and to use their influence with their senators and congressmen, made this statement: "It is suggested that it [H. R. 6282] be amended to take from physicians, dentists, and veterinary surgeons the right of 'dispensing or distributing' the drugs enumerated in the bill by giving them the right of administering."

This "suggestion" is almost word for word the language of the Nelson amendment.

Senator Nelson also proposes to amend the bill by adding the following words:

"And provided further, That such physician, dentist or veterinary surgeon shall keep, or cause to be kept, a list of the names and addresses of all persons to whom the aforesaid drugs were so administered and the date thereof, and shall preserve such names and addresses for a period of two years from the dates thereof in such a way as to be readily accessible to inspection by the officers, agents, employees, and officials hereinbefore mentioned."

This amendment is less serious than the first one. It does, however, involve the doctor in a maze of bookkeeping details, which are entirely unnecessary to the end aimed at. As the bill originally stood, the doctor was compelled to keep a record of all narcotics purchased. If he purchased more than there was legitimate demand for he could be reached and punished. The amendment places the honest men of the profession in danger of burdensome and inquisitorial supervision on the part of the federal government, interfering with the confidential and sacred relationship between physician and patient (protected by law in many states), involving the keeping of records of single doses of medicine, of local applications, of the use of local anesthetics or other minor interventions, and of minute quantities of narcotics in frequent every-day use.

Also, the bill discriminates against the doctor in the favor of the druggist. The former must keep a record of the names and addresses of all persons to whom he administers these drugs, and preserve this list for two years. All the pharmacist is expected to do is to file the prescription (as he always does) and to keep it two years (as he would in any event). He is not required to keep the names and addresses of the patient; nor is there apparently anything to prevent refilling the prescription as many times as may be his and his customer's pleasure.

It should be noted, right here, that, in effect, the bill permits the sale of liquid remedies containing small quantities of opium, morphine, heroin and codeine without any restrictions whatever. These may be sold

by a traveling medicine peddler, country store or by the pharmacist himself. The druggist may pass these out over the counter, ready mixed or specially mixed, in unlimited quantities and with a free hand. The doctor, on the other hand, who for convenience and other good reasons prefers to carry and dispense tablets or pills will find that these must be purchased under his license, and if administered to a patient (presumably he cannot dispense them) he must keep an elaborate record, be prepared for the visits of a government inspector, and, if careless, expect to pay a fine or be imprisoned.

We have presented the facts. It is for the medical profession to act since it is most concerned. We believe in the bill. We urge its passage. Something of this kind is greatly needed, and physicians should make any sacrifice within reason to secure a strong, clean and effective measure of this kind. But every doctor in the country should fight for his reasonable rights—and if there is any fight in him, now is the time to show it.

We suggest that you write immediately to your United States Senators, telling them you are in favor of the bill and want to see it passed; but tell them you object to the use of the word "administration" without proper definition and urgently request that your right to "dispense" be specifically protected; also that you be spared unnecessary burdens in the way of record-keeping.

This is not a fight against the druggist or against any individual, trade or profession. It is simply a fight to secure the passage of a great reformatory legislative measure, and to prevent its being so twisted by selfish trade interests as to oppress you.

Insist that the bill be passed—and passed unamended. Get action from your medical society—and act quickly.

LATER.—Just as we finish this, a message comes that the bill may be taken up today. Immediate action is imperative. Write to your representatives in Congress as well as to your senators. Representative M. D. Foster is a member of the House Committee which introduced the bill, and is a physician.

CHOLAGOG ACTION OF DRUGS

By inserting a drainage-tube into the gall-duct of operated patients, van Kegel (*Nederl. Tyd. v. Geneesk.*, 1913, p. 1606) has satisfied himself that the salicylates, cholagen, Du Fresne's remedy, and olive oil have no—or only an insignificant—influence upon the flow of bile, but that bile is a powerful chola-

gog. Ovogall acts quite well; ox-gall rather less so.

Probably the ideal remedy to stimulate hepatic function consists of the bile-salts, now obtainable in a convenient form.

DREAMERS: DOCTORS OF SANITARY SCIENCE

"Nothing," says Parkes, "is so costly in all ways as disease, and nothing is so remunerative as the outlay which augments health, and in so doing augments the amount and value of work done." An apt expression this, and one pregnant with suggestion and meaning. But Parkes evidently was thinking of the economic side of disease. And well might he think of it in an economic light, for, in our day everything is economics—we judge the almighty things of life by the standard of the ever-mighty dollar, and care for almost no other consideration.

Everybody is practical nowadays. Everybody is a so-called business man and prides himself in looking upon things from a business point of view. We are all applying our knowledge, our minds and our energies to something tangible, something that can be converted into dollars and cents. We must do this. Competition is keen, and the grim, unyielding law of the survival of the fittest holds sway in human society as true and heart-breakingly positive and unrelentless as it does in other phases of life.

We forget in our mad struggle for existence—for the dollar which makes our particular brand of existence possible—we forget, I say, that there are other things that demand our time and our thought. In the mad rush to treat disease and to beat the other fellow in treating some particular disease, and thereby gain money and a "reputation" (as well as help humanity by the way), we oftentimes forget that the prevention of that disease should be our chief aim.

"It is our chief aim." Yes, so you say. Look deeper, friends! You say that for years the doctors have endeavored to prevent disease—at the same time that they were getting fat fees endeavoring to cure people of that self-same disease.

And, yet, sanitary science is still in embryo. And those who have devoted their time and energies to this all-important branch of medicine—a branch which ought to be, and eventually will be, a profession by itself—those doctors, I say, have gone into obscurity and oblivion, unnoticed, unpaid, unrewarded.

Why? Because they were not practical—bah!—they were dreamers—let them pass.

But they are e'en now awakening and asserting their own—these dreamers. The day will come—and it is not afar off—when they will lift their mighty shoulders and break through the crust of materialism and conventionality and establish a vast system of governmental medical supervision and health preservation.

Of course, sanitary science, the art of preserving health, has always been recognized as a branch of medical science; a branch not less important than that which concerns itself with the cure of disease. It has been recognized, yes—and that is all.

Even as far back as 1490 B. C., Moses, the great leader of the Jews, enjoined the strictest cleanliness and to a very great extent anticipated our modern sanitary laws, which, in an age of so-called civilization and after centuries of development, are not much better now nor half so well enforced as were those in force during that comparatively primitive period.

Hippocrates, that great teacher, embodied in his works an article on hygiene the practice of which probably obtained long before his time. Had doctors taken up the study of hygiene where that great master left off, we should not have to read today of the great plagues, the pestilences, and the epidemics which even up to modern times have periodically devastated the civilized world.

But, if doctors have thus far neglected this most important branch of medicine, some of them have wakened to the fact that there is something vaster, something more ennobling to be done than to treat disease. There are a few dreamers in the medical profession, and among them are also sanitary scientists.

What would these dreamers do if they had their own way? Ah, well! Sanitary science is a dream of the future. Perhaps some of these days we shall describe just how things would be with a national board of health, with sanitary scientists as legislators and members of the President's cabinet, and with an army of doctors instead of soldiers, and with a navy of floating free sanatoria in all parts of the world instead of a navy of armored ships of war. Then there will be no contagious and infectious diseases, and all maladies in general will be less prevalent and terrify less the average human being. But that will be the work of dreamers and—well, sanitary science is a dream of the future.

D. E. PICONI.

Brooklyn, N. Y.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

I HAVE just finished reading a very remarkable book, "Women and Morality," published by The Laurentian Publishers, Steinway Hall, Chicago.

The book sells for one dollar a copy—and it is worth it.

This is a sex-book of tremendous interest and importance, a work that should command the attention and careful consideration of every man and woman.

There is no topic within the domain of social science so delicate and so vital as that so sensibly and fearlessly treated in "Women and Morality."

The sex-passion has ever occupied a large part of human thought. Much has been written on this subject from time immemorial; but the writing has been, in the main, inadequate, dogmatic, foolish or untrue. Outrageous inferences are made and equivocations surmised upon the slightest reference to the subject, and qualified admissions of liberty are construed as commendations of unbridled license.

However, the greatest hindrance to a general correct understanding of the sex-passion is the extraordinary ignorance and diversity of feeling and temperament which exists in matters of sex. This is increased by the reserve—natural or cultivated—which so seldom allows people to express freely their sentiments or convictions on this generally taboo subject.

In "Women and Morality," "A Mother," "A Father," and C. Gasquaine Hartley (Mrs. Walter M. Gallichan) have each written fearlessly and with rare intelligence on the question. To quote from the last-named writer:

"The sex-needs are almost always dealt with as though they stood apart and lay out of line with any other need or faculty of our bodies. This is, in part, due to the secrecy which has kept sex as something mysterious. . . . Sex is so powerful in most of us and occupies really so large a part of our atten-

tion that we are afraid of ourselves, and this reacts in fear of any open acknowledgment of our sex-needs.

"It is necessary to face very frankly this tremendous force of the sex-passion, for the most part veiled in discussion. Next to hunger, this is the most imperative of our needs; and, indeed, today sex enters more into conscious thought than hunger. For the hunger-needs of most of us are satisfied, while the sex-needs are thwarted and restrained in all kinds of ways, and thus thrust themselves the more insistently into our thoughts. Herein is the explanation of why so much of our speech about sex is so thoroughly indecent."

This is true. The sexual appetite lies far deeper down than the appetite for food or for anything else. "By sin came death into the world," and the "social evil" has its root in primal "sin," so called—more correctly, however, in the God-given procreative instinct.

The animal act, the abuse of which causes the evil, is as natural as any other animal act, and as necessary as the act of nutrition. Without either, life would soon fade out from the face of the earth. You have to go back to the primordial bioplasm before you can find an example of reproduced life without it.

We have to deal, not with theories nor clamors, but with red-blooded realities, setting aside sentiment as such. Considered from a sensible and exalted point of view, sexual life is beautiful, as well as good. What there is in it which is shameful and infamous is the obscenity and ignominy and disease caused by the coarse passions of egoism and folly, allied with ignorance, erotic curiosity, and mystic superstition, often combined with social narcotic intoxication and cerebral anomalies.

The "Mother" writing in "Women and Morality" says: "Those women who assert that men must be educated up to women's physiological law are either ignorant of physi-

cal truths or wilfully blind; in which case they do not count. . . . A woman can, by nature, have only one child in the year; a man can have hundreds. Such is nature's law. To argue about it, to set out to prove that man must be leveled up—in plain language, must be constricted to the same physical laws that govern our sex—is mere woman's chatter; unscientific, empty, which can bring about neither reform nor morality."

It is refreshing to find a talented, broad-minded woman—a mother—holding the view that the sexes differ in this particular respect; she, evidently, does not believe that there should be one standard of morality for the male and the female sex alike.

There is a physiological difference sexually, as "A Mother" knows, and the sexual instinct in man is different—in degree, at least—from that in women; and continence in women is less injurious than in men, although every experienced medical man knows that in women the results of continence sometimes are very disastrous.

A normal woman is not passionless; but she is chaste and less demonstrative. Purity does not mean that the senses are untouched. As Ellen Key has well said: "Purity is the new-fallen snow which can be melted or sullied; chastity is still tempered in the fire of white heat. For chastity is only developed together with complete love; this excludes equally all partition among several and makes a separation between the demands of the heart and of the senses impossible." The essence of chastity is, according to George Sand's profound words "to be able never to betray the soul with the senses nor the senses with the soul."

Woman, because of the conventional conception of womanly purity, has been intimidated from conceding to men a deep insight into her erotic life-experiences. Only when women begin to tell the truth about themselves will literature universally illuminate the still unknown depths of woman's erotic temperament.

And C. Gasquaine Hartley (Mrs. Galichan), in "Women and Morality," tells the truth! She writes: "There is no greater lie than the so often reiterated assumption that 'woman is naturally and organically frigid.' It is a lie that will take a real revolution in our moral ideas to uproot." She does not believe that chastity is the natural and special virtue of women, and adds, "Complete abstinence from love cannot be borne by

women through a long period of years without producing serious results on the body and the mind. It is in the blighting effects of celibacy that we must seek the cause of the sterility of women's lives."

The ideal woman is the one who desires with her whole being, who wishes to give love, not merely to accept it; chaste, not because she is cold, but because she is passionate. Ellen Key states it well;

"She will be reserved, not because she is bloodless, but because she is full-blooded. She will be soulful, and, therefore, she will be sensuous; she will be proud, and, therefore, she will be true. She will demand a great love, because she herself can give a still greater. The erotic problem, because of her refined idealism, will be extremely complicated and often almost insoluble. Therefore, the happiness which she will give, and experience, will be richer, more profound and enduring than anything which up to the present time has been called happiness."

The marriage question is most ably discussed, although I doubt whether we are any nearer the solution. "A Father" writes feelingly on the "decay of domesticity." He maintains that there must be more expression and less repression; that what we want is purity—as much as we can get. But we do not want neuter-purity. Many wives, he says, are sexless (too true!); they are bored at their prospective "duties of propagation"; they are the philosophic *élite* of their sex. "They strive," he writes, "for the abolition of prostitution, and in so far have my profound respect. But, if, with a view to attaining that end, they insist that the male shall be leveled up to their own standard—then I wish them joy in their labors."

Neither marriage-laws nor civic laws, nor all the hysterical exhortations of men or women will abolish prostitution or sexual indulgence outside of wedlock. "No ordinance of man shall override the settled laws of nature and of God." "Solomon's wisdom was extinguished in the fire of lust, Sampson's strength enervated, piety in Lot's daughters quite forgotten, gravity of priesthood in Eli's sons, revered old age in the elders that would violate Susanna, filial duty in Absalom to his step-mother, brotherly love in Ammon toward his sister. Human—divine—laws, precepts, fortune, shame, disgrace, honor can not oppose, stave off or withstand the fury of it."

The story of the world, so far as we can trace it, has shown that all civilizations, as

they reached higher and more complex forms, have developed polygamous practice, either with or without the sanction of law. Emancipation from primary conditions of brute labor has always brought increasing leisure and ease, with an accompanying spread of indulgence for all the appetites.

A few thousand years are all too short to bring any measurable change in human character, tastes, appetites, and habits. The differences are racial only, and racial differences arise from climate and the influences of physical geography. Certain fundamental qualities and propensities are common to all. The impulse of procreation is the most common. It is universal. In some parts of the world, as thought grows freer and fancy finds time from hard pursuits to dwell on luxury, it diverges from its merely natural, and necessary, purposes and finds expression in promiscuity.

The difference between peoples in any corresponding stages of advancing life and enlightenment will be found to be very slight, indeed. In the underlying, elementary things, they are all alike—and we are like them all. And in every age sexual congress outside of wedlock has existed; having for its cause the blind urging of the protozoid—the nagging and often irresistible impulse of sex.

Negative purity does not inflame youth and cannot, in the long run, protect him. To burn the ideal of a great love into the soul of youth, is to give him a real moral strength. Thus, there springs up in man the ineradicable, invincible instinct that an erotic relation exist only as the expression of a reciprocal, all-comprehensive love. Thus will youth learn to consider the love-marriage as the central life-relation, the center of life; and he will be inflamed with the desire to develop and to conserve body and soul for the entrance into this most holy thing in nature, wherein man and woman find their happiness in creating a new race for happiness.

But what shall become of the young man situated as "A Mother's" son was, or a poor young man who is unable to win the girl he desires, or of the young woman who must wait until she is asked before she can marry, and may never be asked by the man of her choice? Hers is the lament of a woman who suffers

Cut off from marriage-bed and marriage-song,
Untasting wife's true joy or mother's bliss.—"

One of the writers in "Women and Morality" advocates open recognition of sexual partnerships outside of marriage in certain cases, not necessarily permanent, with proper provision for the woman and her children, should there be any; and she adds: "a provision not dependent on the generosity of the man and made after the love which sanctioned the union had waned, but decided upon by the man and the woman in the form of a contract before the relationship was entered upon, there would be many women ready to undertake such unions gladly; there would even be some women, as well as men, who, I believe, would prefer them to the present marriage system, that binds them permanently to one partner for life."

Could such a relationship be immoral? Can any relationship where love exists be immoral, then?

To the world, all women found even one step outside the prescribed path are equally vile, alike deserving unmitigated censure; yet, from the highest to the lowest of those so outlawed is a sweep as far as from the highest heaven to the deepest hell. Some of the noblest, grandest women of the world have lived on very intimate terms with the men they loved, and that, too, without the formality of securing society's sanction. Many a noble woman has become a man's mistress, because she could neither become his wife nor trample her heart beneath her feet at the dictates of society. With some women, and with some men, *love* is a higher law, before which canons of church and state shrivel into nothingness.

If many unmarried people like "A Mother's" son find life, conventional as it is, a difficult problem, how about the vast army of married people who are mismatched? And is there anything more pathetic, more tragic than incompatibility—when the two minds find that they no longer share the single thought, when they have to grope for a topic of conversation, when there is nothing in common? Intellectual sympathy alone will not hold people together. Much of the domestic unhappiness starts in the nuptial couch. There must be perfect compatibility, physical and intellectual harmony; indeed, a thorough understanding and response in feeling, thought and will. No union between a man and woman can endure if they but touch as spheres. "Difference, not distance, separates souls."

And when souls are separated, though married, what is to be done?

Read this book. You will be profoundly impressed, although you may not agree with all that is written there. At times you will be startled by the very boldness, yet, undoubted truthfulness, of the writers, as, for example, in such statements as the following:

"We have got to recognize that our form of marriage cannot meet the sex-needs of all people. To assert that it can do this is as absurd as to say that one form of diet can meet the hunger-needs of all people."

"It is not realized that the effort of the reformer is not, to lessen at all the bonds between the sexes, rather the desire is, to strengthen them; but the form of the bonds will have to be made wider, if they are to meet the sex-needs of women and men. We shall have more morality in too much wideness than in too little."

"That any child should be branded as illegitimate, is, in itself, witness to the inadequacy of our moral code."

"The woman who loves a man wants to be the mother of a child by him."

"The art of love is not understood by western people. If we paid more attention to this subject, sexual partnerships, and in particular marriage, would be freed from one great cause that brings them to disaster."

"To me, the man who is able to live a celibate life is not necessarily better than the man who is not. I may prefer one type of man, I may dislike the other, but this also is a matter of my personal idiosyncrasy. The old Puritan shrieks of blame are possible only to the ignorant."

"There are very many men who are moral, because they are too great cowards to be immoral."

"Sexual abstinence is possible without great effort for some people; I am certain it is not possible for all."

"Temperance is the ideal; not chastity."

"We women will always appeal to men primarily physically—beauty, therefore, will always be our chief valuation."

"Practically every man who is not married is leading an immoral life—immoral, that is, judged by the principles of our church and government and society."

But read the book!

MEXICO: A REMEDY

I have read with a great deal of interest the article, in the October CLINIC, by A. R. Hollmarn, of Colima, Mexico, under the heading, "Shall the United States Recognize

Huerta?" The writer has personal friends who are well acquainted with the existing unsettled political affairs of that country, they having lived there and having quite extensive business interests in that country.

Mexico labors under the same disadvantage that the Central American and other Latin-American states have passed through and are still experiencing, I refer to the blighting curse of the intermingling and intermeddling of the clerical, or religious, element with civil, or state, affairs. Until this controlling influence is thoroughly eliminated from any connection with the civil government of that unfortunate country, there will not and can not be any settled, peaceable, and stable condition in its social and civil affairs; and even then it will take at least two or three generations to do it, so habituated are the inhabitants to misrule and chaotic conditions generally.

It is a pity that one of the fairest sections on the American continent, abounding, as it does, in tropical and semitropical fruits of every variety, agricultural products of all kinds, and an unlimited supply of mineral wealth and precious stones, should be subjected to such a constant state of political perturbation.

From the time when the Toltecs were subjugated by the Aztecs, in 1325, there was, according to historians, comparative tranquility in that country down to 1519, when the Aztecs were overpowered by the Spanish brigand Hernando Cortez—since which period the country has been in a more or less unsettled condition.

It is the writer's opinion, formed from what information that can be gathered, that there are but two courses for the United States to pursue in connection with its Mexican neighbors; namely: one way is, to apply the strong arm of military force in conjunction with Huerta; this implying recognizing him as the *de facto*, if not *de jure*, executive of that government; the other plan is, to let them fight it out among themselves, without any foreign interference whatever, until one or the other of the contending factions is exterminated. The latter plan is, perhaps, the one that would be the most effective as a permanent remedy.

Perhaps our Secretary of State could persuade the Mexicans to substitute unfermented grape-juice for their favorite pulque. That beverage might help somewhat toward cooling their ebullient Spanish-creole blood.

G. D. STANTON.

Stonington, Conn.

Among the Books

JACKSON AND MC MURTRY: "DISEASES OF THE HAIR"

A Treatise on Diseases of the Hair. By George Thomas Jackson, M. D., and Charles Wood McMurtry, M. D. Illustrated with 109 engravings and 10 colored plates. Philadelphia: Lea & Febiger. 1912. Price \$3.75.

How much do you know about the hair and its diseases? The number of bald-headed doctors in evidence would suggest that the majority of us do not know very much about this subject; so, if you would thoroughly familiarize yourself with it, as you should, by all means study the treatise of Doctors Jackson and McMurtry, a book filled with interesting and helpful facts. Thus, for instance: do you know that there are about 120,000 hairs on the head of the average adult person; that blond hair is thicker than black hair; that flaxen hair is the finest and black the coarsest; that the finest hairs of the scalp of the Anglo-Saxon race are from 1-1500 to 1-500 inch in diameter; that women's hair is coarser than men's; or that whether hair curls or not depends upon how flat it is?

Further, do you know that the most fertile single source of the spreading of diseases of the hair and scalp is the barber-shop for men and the hair-dressing establishment for women; that shingling the hair injures the scalp and roughens the hair itself; that singeing is a foolish custom, which does no one any good except the barber; and that hair dyes, while often injurious, may be perfectly harmless if made of proper materials?

In addition to facts like those cited, the authors present much that is of exceedingly practical value in the way of treatment. For instance, we are interested to learn that pilocarpine is the only drug known to promote hair growth. Still, there are numerous other remedies which, through improving the health of the patient, may contribute to a healthy condition of the hair and the scalp; and it must be remembered that there are many diseases of the scalp that cause falling of the hair.

All these various diseases are discussed by the authors with exceeding care and in a man-

ner that greatly adds to the interest. Such subjects as alopecia in all its forms, ringworm, eczema, sycosis, favus, pityriasis, seborrhea, pediculosis, and syphilis are gone into with exceeding detail. Surely, this book is one that should appeal to every physician—and, we suspect, to every physician's wife.

TYSON AND FUSSELL: "PRACTICE OF MEDICINE"

The Practice of Medicine: A Textbook for Practitioners and Students. With Special Reference to Diagnosis and Treatment. By James Tyson, M. D., LL. D., and M. Howard Fussell, M. D. Sixth edition, revised and rewritten. With 6 plates and 179 illustrations. Philadelphia: P. Blakiston's Son & Co. 1913.

In spite of the multiplication, within recent years, of specialized medical literature, the compact, comprehensive textbook of general medicine still seems to maintain its place and its popularity. Indeed, there are not wanting indications that more recently, possibly as a reaction from the specializing tendency referred to, there has been a decided movement, on the part of students and readers, back to the general style of textbook.

Certainly, a work of this class occupies an important and valuable place, not alone from a practical standpoint, but even from an academic one as well. For, such a compilation serves to assemble, and discriminate, and orientate all that is being done in the special fields of medical science, and to give everything its proper proportional relation to the healing art—which, after all, is the end and *summum bonum* of all medical research and experiment.

Doctor Tyson's "Practice" always has enjoyed the reputation of being a standard work, and the latest edition fully upholds this reputation. A large number of new subjects have been introduced that properly claim a place in a book aiming to cover the entire field of internal medicine; and the whole is shaped into a practical, usable summary, with a view to the highest degree of clinical efficiency. No additional words from the reviewer are necessary to insure its continued

popularity: the book is its own best endorsement.

HUHNER: "STERILITY"

Sterility in the Male and Female, and Its Treatment. By Max Huhner, M. D., chief of the genitourinary department of the Harlem Hospital. New York: The Rebman Company. 1913. Price \$2.00.

Sterility always has been and still continues to be one of the *betes noirs* of medicine. Every physician runs against the problem, sooner or later. The gynecologist, of course, encounters it a dozen times to the general practitioner's once; and always it presents the same obscure and difficult task, the same tantalizing challenge to the ingenuity and detective-ability of the doctor. Moreover, inability to bring forth progeny is a heart-searching problem, for it touches one of the profoundest and most delicate of human instincts and passions—the love of offspring. Nor can one sidestep this problem, and the doctor must canvass the question with all the thoroughness that is at his command before admitting defeat.

It is for the purpose of putting within the practitioner's easy reach all the data thus far available on the subject that Doctor Huhner has written this little book. It must be confessed, though, that, while it leaves very little to be desired, at least from the physical and clinical point of view, we cannot help feeling that neither Huhner nor any other writer on sterility has given the biologic factor nearly the attention that it calls for. Otherwise, the author backs up his teachings with his own experiences, of which he presents plentiful examples, in the shape of clinical reports.

SOPHIAN: "EPIDEMIC CEREBROSPINAL MENINGITIS"

Epidemic Cerebrospinal Meningitis. By Abraham Sophian, M. D., formerly with the New York Research Laboratory. St. Louis: C. V. Mosby Company. 1913. Price \$3.00.

One of the latest and greatest achievements in practical therapeutics was Dr. Simon Flexner's discovery of a curative serum for epidemic cerebrospinal meningitis. The use of this serum has reduced the mortality of this terrible disease from a general average of about 75 percent, to approximately 25 percent, and although the new serum has been in use only about two years, it has already saved many thousands of lives.

The discovery of the Flexner serum did not however, come from a clear sky. It was the culmination of a long series of careful studies in the etiology and pathology of the disease, and in the making of these investigations Doctor Sophian, the author of the book herewith reviewed, had a considerable part. Naturally his book is given up quite largely to the laboratory aspects of epidemic meningitis. However, the disease in all its phases is studied with exhaustive scientific care, and this monograph gives not only practically all that is known concerning the disease, but it is particularly complete in every phase of its etiology, pathology and therapy.

Doctor Sophian, it will be remembered, was employed by the city of Dallas to take charge of the epidemic of this disease which prevailed in Texas during 1912. He has therefore had opportunity to study the clinical phases of epidemic meningitis such as has been the privilege of very few men. If any man is an authority upon the subject, he is. His monograph is therefore a book of exceeding importance and one which should certainly be in the hands of every physician who is called upon to treat cases of meningitis, or confronted with the possibility of an epidemic.

"MANUAL OF VENEREAL DISEASES"

A Manual of Venereal Diseases. Second edition, revised and largely rewritten. By Keogh, Melville, Leishman and Pollock, all of the British Army Medical Corps. New York: Oxford University Press. London: Henry Frowde. 1913. Price \$3.75.

There is no more fruitful field for the study and clinical observation of venereal diseases than the regular army; and nowhere else have these diseases received such systematic and intelligent attention as among army-surgeons. Naturally, one will expect a book on this subject, written and edited by members of the army medical service, to furnish a very thorough and highly valuable contribution to the literature of this branch of medicine; and, indeed, those familiar with the treatise under consideration will agree that this expectation is fully realized by it.

The second edition of this manual, which we are now reviewing, is an especially complete work. The chapters on the pathology of syphilis virtually have been rewritten, to conform to the present status of our knowledge, while new sections have been introduced upon the treatment of syphilis with salvarsan and neo-salvarsan and on the vaccine treatment of gonococcal infections. There is also

a section dealing with the treatment of the latter condition by means of the local application of heat.

All the writers are men of long and active experience in their respective divisions of the subject and may be regarded as experts; for all that, the book is written in such a fashion as to be of the maximum practical value to the general practitioner in his encounter with these diseases.

HARE: "PRACTICAL THERAPEUTICS"

A Textbook of Practical Therapeutics; With Especial Reference to the Application of Remedial Measures to Disease and Their Employment upon a Rational Basis. By Hobart Amory Hare, B. S., M. D., professor of therapeutics and materia medica in Jefferson Medical College, Philadelphia and New York: Lea & Febiger. 1912. Price \$4.00.

"When called to guide a patient through an illness, the physician should be constantly a watchman, and a therapist only when necessity arises.

"A good physician is one who, having pure drugs, knows when to use them, how to use them, and, equally important, when not to use them.

"When a physician gives a drug and the patient improves, care should be taken not to ascribe all the good results to the remedy employed. Nature must be given credit for a large part of the improvement."

These rules are quoted from the first chapter in Hare's "Therapeutics." We have cited them often, but they so clearly express both the ideal of the true physician and the ideal which runs through Professor Hare's book that it seems proper to print them here.

Hare's "Therapeutics" has been mentioned so often in these pages that we hardly need speak again of its merits. There are larger books than this, but there certainly is none which presents the things which the physician ought to know about drugs and their application with more clearness and with such a definite understanding of the needs of one actually engaged in the practice of medicine. The book is, indeed, a practical one from beginning to end.

The drugs are discussed in alphabetical order. We have only praise for this section. Following this portion of the book come articles upon various physical, nonmedicinal remedies: for instance, the antitoxins, vaccines, Bier's hyperemic treatment, carbon-dioxide snow, the use of water, climate, cold, heat, and counterirritation. We mention

only a few of the many physical measures referred to.

Part IV, which comprises about one-third of the matter, is devoted to a discussion of diseases. These also are taken up in alphabetical order, and the indicated remedies are described and the physician is told how to use them. There is contained in this work a wealth of helpful material obtainable nowhere else in such small compass. We take pleasure in drawing attention once more to the value of this book, and suggest its purchase by every practitioner desiring "an ever-present help in time of trouble."

"PROGRESSIVE MEDICINE"

Progressive Medicine: A Quarterly Digest of Advances, Discoveries, and Improvements. Edited by Hobart Amory Hare, M. D., and Leighton F. Appleman, M. D. Vol. IV. 1913. Philadelphia and New York: Lea & Febiger. Per annum, \$6.00.

The volume under consideration is devoted to metabolic and genitourinary disorders. There is a section on diseases of the digestive tract and allied organs, including the liver, pancreas and peritoneum, by Dr. Edward H. Goodman; a chapter on diseases of the kidney, by John Rose Bradford; a section on genitourinary diseases in general, by Charles W. Bonney; and, for good measure, Dr. Joseph C. Bloodgood contributes an article on shock in anesthesia, infections, and fractures.

At the end of the volume there is an excellent feature, in the way of a "practical therapeutic referendum," giving a ready-reference résumé of the recent findings and provings that have been achieved of various therapeutic agents, classified alphabetically under the name of the drug or other agent in question. The whole is a very "nutritious and easily digestible" sublimation of all that has been assimilated by the body medical during the three months that the volume covers.

MITCHELL: "THE DOCTOR IN COURT"

The Doctor in Court. By Edwin Valentine Mitchell, LL. B., of the Massachusetts Bar. New York: The Rebman Company. 1913. Price \$1.00.

We have frequently pointed out the importance of the general practitioner of medicine possessing what may be called a working-knowledge of his relationships to the law.

Ignorance of the law excuses no one. How many physicians even know the rules of law that apply to their own calling? Yet, there are peculiar reasons why the physician should be even better informed than his lay neighbors upon matters of this kind. He cannot consult his attorney upon such occasions where extraordinary exercise of care and judgment is demanded of him, and situations are innumerable where unscrupulous persons ensnare the doctor in a tangled web of circumstantial evidence through nothing in the world but his ignorance of the legal significance of perfectly innocent acts.

Unfortunately, most of the textbooks of medical jurisprudence treat the entire subject altogether too much from the purely forensic side, and so miss the very reason of their existence. They almost ignore the smaller, everyday aspects which the doctor is continually encountering.

Mr. Mitchell's little book really is the first of its kind we ever have seen that meets our ideas of what such a compilation should be. It is, as its title implies, a *vade mecum* for the doctor in court—a working-manual of his relations to the law. We recommend it highly to our readers, and assure them that they will get more of practical, usable value for the modest dollar spent on Mr. Mitchell's little book than for many times that sum put into a ponderous volume on medical jurisprudence.

BISHOP: "HEART DISEASE AND NAUHEIM TREATMENT"

Heart Disease, Blood Pressure, and the Nauheim Treatment. By Louis Faugeres Bishop, A. M., M. D., Fordham University, New York. Fourth edition, revised. New York and London: The Funk and Wagnalls Company. 1913. Price \$3.00.

The author of this book very pertinently remarks in his introduction that, as tuberculosis is the great despoiler of youth and of early manhood and womanhood, so high arterial tension is the curse of middle and advanced age; and just as tuberculosis has for its victims the most attractive youth of the land, so high arterial tension claims the best and most successful of older persons, those who have borne the weight of the strenuous demands of a modern career. High tension, therefore—its etiology, pathology, and treatment—are of immense interest and importance from the very widest viewpoint of medical science and practice. Indeed, we are realizing of late that these functional aspects of the

circulatory mechanism are of vastly greater import than the organic troubles that have been claiming so much of our time and attention.

Doctor Bishop's able and conscientious work on blood pressure is known and admired of all men; and whatever he has to say on the subject comes very near to being the last authoritative word. The fact that this book is in its fourth edition within less than six years of its original publication testifies to the valuation in which it is held. It is not intended for the heart-specialist, but is written for the general physician, and furnishes all the information he can desire in the management of high tension, based upon the most recent scientific research and clinical experience. The lucid description of the Nauheim treatment is a most valuable feature of the work.

BECK: "HANDBOOK FOR NURSES"

A Reference Handbook for Nurses. By Amanda K. Beck, graduate of the Illinois Training School for Nurses, Philadelphia: W. B. Saunders Company 1913. Price \$1.25.

A perusal of this little handbook reminds one of the precocious individual of whom the poet said,

And still the wonder grew
How one small head could carry all he knew.

There does not seem to be a single thing that the nurse could possibly desire to know, at least in the way of practical detail, that she cannot find in the pages of this small 32mo volume of 200 pages. From a glossary of Latin abbreviations up to the symptoms and care of a case of pregnancy, nothing is left out. Moreover, the third edition evinces a thorough and conscientious effort to keep the book up to date.

Many new formulas that recent experiment has shown to be valuable have been added, while several old and superseded ones have been eliminated. A section has been inserted on the modern methods of giving baths, including a list of the articles needed for these and similar forms of treatment. A like inventory is given of the instruments required for surgical operations, while the various postures of the patient for this and that kind of operation are aptly illustrated with cuts. We really do not see how a trained nurse can get along without Miss Beck's handbook; and where the doctor has to play the part of nurse (as he frequently does) he, too, will find that its usefulness is not to be "sneezed at."

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 5987.—“Paralysis Following Penetrating Wound of Hand.” W. M. B., Idaho, on September 18, placed a long-necked bottle on the floor and put the palm of his hand on the cork to force it in; but the neck of the bottle was cracked and gave way, so that the hand came down upon the sharp-pointed fractured glass. It was thought that no pieces of glass remained in the wound, but later (on Thanksgiving Day) a fragment was discovered lying between the ring- and the little finger, just above the palmar arch. Although it was removed, the man has not recovered full use of this hand. Since the operation, the sensory function seems to be impaired, the outer side of the ring-finger, nearly all of the little finger and the corresponding area extending to the location of the wound being “numb” and the little finger almost without feeling; there is fair motion, however.

At the time of the injury some “rheumatism” in the middle joint of the middle finger was complained of, but gave no particular pain; the area was slightly swollen and stiff, pain being caused by pressing on the joint with thumb and finger. Later, the same condition was observed in the first joint of the thumb—slight soreness upon pressure, but no stiffness. The man can not exert pressure with the thumb and forefinger unless the thumb is completely flexed; he cannot now handle a hatchet with any force or agility. Later, the space between the phalanges of thumb and forefinger became wasted, and now a shrunken space exists on the palmar side of the thumb, involving what seems to be the superficial portion of the flexor brevis pollicis muscle.

The doctor cannot conjecture how this condition in any way can be attributed to the injury; nevertheless, it came in the wake of it, the first sign being inability to grasp the crank and ring the telephone.

We agree that it would be difficult to attribute this man's pathological condition of the thumb and adjacent muscles to the lesion described, which, as we understand it, was located between the ring-finger phalanx and that of the little finger, just avoiding the palmar arch.

The palmar cutaneous branch of the median nerve crosses above the annular ligament and divides into two branches, to supply the ball of the thumb and the palmar surface of the hand, while the digital branch supplies both sides of the thumb, and also the radial side of the ring-finger. The superficial palmar branch of the ulnar nerve supplies the skin of both sides of the little and the ulnar side of the ring-finger. The radial branch of the musculospiral nerve becomes superficial three inches above the wrist and supplies the adjoining sides of the thumb and index-finger, the index- and middle, and the middle and ring- fingers.

A superficial wound or lesion distinctly above the palmar arch could not, therefore, affect the nerve supply of the little and the ring-finger and the thumb; but it is just possible that a small piece of glass worked its way further down into the palm, or, also, that the inflammatory process extended deeply enough to involve the nerve supplying both regions.

We must not forget, however, that when the injury to the hand occurred there was present some disorder of the middle joint of the middle finger; and this may not have been “rheumatism,” as you call it, but an evidence of neuritis.

Under the circumstances, we are inclined to consider the present condition of the thumb as in no way connected with the injury, but one which must be regarded as proof of an already existent pathological condition. We naturally would infer that the palmar cutaneous or the digital branch of the median

or the deep palmar branch of the ulner nerve is involved. The electrical reaction should be tested, in the hope that the condition speedily will disappear.

QUERY 5988.—“Harmless Hair-Dye Wanted.” R. I. McL., Rhode Island, wishes us to recommend a harmless hair-dye for a patient of his, explaining that “the lower half of the back hair is quite brown, but the rest is getting decidedly white; if it were all blanched the lady would not mind it so much.”

There really is no effective treatment for canities, especially when only a portion of the hair has changed color. In many cases of so-called pilosis circumscripta, the condition will be found to extend through several generations. You do not state the age of your patron; we are, therefore, unable to state whether the grayness is the consequences of advancing years or a distinct canities præmatura.

It would hardly be desirable for the lady herself to attempt to dye her hair, especially the gray portion of it. We should advise her to let well enough alone, although, of course, she could dye the entire hair a deep-brown or black. Practically any depth of shade can be secured by the conjoint use of a corrosive-sublimate solution, 2 grains to the ounce, followed by one of sodium hyposulphite, 1 dram to the ounce. Of course, the solution should not be allowed to touch the scalp; in fact, toxic dyes are not to be advised generally. Also, a 1 3-4 percent nitrate of silver solution will produce a black color, the hair being thoroughly moistened with it, then dried in the sunlight.

Kaposi gives the following formula for a brown hair-dye: pyrogallol, 40 grains; cologne-water, 75 drops; rose-water, 3 ounces. Apply to the freshly washed and dried hair with care:

The following two solutions also may be used: (1) Bismuth citrate, 1 ounce; rose-water, 2 ounces; distilled water, 2 ounces; alcohol, 5 drams; ammoniac water, enough to form a solution. (2) Sodium hyposulphite, 12 grains; distilled water, 4 ounces. No. 1 should be applied in the morning, and No. 2 in the evening of the same day.

QUERY 5989.—“Continuous Administration of Calomel.” H. S., New York, wishes to know what we consider the best eliminant for calomel when the drug is given continuously for, say, three weeks.

Calomel given in small doses is eliminated (not as calomel of course), with extreme rapidity. It may be desirable—indeed, it is as a rule—to give a subsequent laxative saline in order to remove waste material and excess secretions present because of the action of the mild mercurial.

It is quite true that when large doses of calomel are given part of the drug remains unconverted and should be removed from the bowel by the administration of saline cathartics. We assure you, however, that, if calomel is given in doses of 1-6 to 1-3 grain every hour or half hour until 1 grain in all is taken, you will secure full calomel effect, and the drug will be eliminated by the emunctories to the last particle in twenty-four hours. It is not desirable, as a rule, to give calomel continuously.

We do not believe that calomel, as ordinarily dosed, is converted by the hydrochloric acid of the gastric juice into corrosive sublimate. It has been definitely proven by Rutherford and Vignal that if 5 grains of calomel are subjected, at 100° F., for the space of seventeen hours to the action of normal gastric juice, 1-35 of a grain of mercuric chloride is produced. As small divided doses of calomel do not remain in the human stomach seventeen or even seven hours, it is evident that only an extremely minute amount of mercuric chloride would be formed. Even if given in the comparatively large dose of 5 grains, calomel passes into the intestine within two or three hours and is there decomposed and the gray oxide of mercury precipitated. Such of it as is held in solution by fatty materials becomes, after admixture with alkaline liquids, practically soap.

The direct action of calomel upon the liver is not yet satisfactorily understood.

We must bear in mind, doctor, that in small doses calomel is more effective than when given in large ones, owing to the fact that only such portion of it as is changed into the gray oxide is active, and, since the amount of alkaline juices in the intestine is small, only a small quantity of the drug may be so changed. It is for this reason that bicarbonate of sodium so frequently is associated with calomel, its presence naturally aiding the reduction of the salt.

Where large doses of calomel have been given to a patient, or if taken for a prolonged period, it is necessary to order salines freely, and magnesium sulphate unquestionably is the most satisfactory eliminant of the drug. Small doses of potassium iodide also have been recommended for this purpose.

QUERY 5990.—“Can Iodized Calcium and Calomel be Given Together?” H. D. C., North Carolina, wishes to know whether there is any danger of mercuric iodide being formed when iodized calcium is administered in association with calomel or blue-mass.

We regret being unable to answer this question positively. Personally, we refrain from doing so; other physicians, though, of whom we know, do not hesitate to combine these two drugs, sometimes continuing them for a prolonged period. We present a few chemical facts and leave you to form your own conclusions.

Mercurous chloride is oxidized to mercuric chloride by iodine. If there is present an iodide, as usually is the case, then the soluble mercuric iodide, is formed. The reaction proceeds best in acid solution. Iodized calcium contains some free iodine. In the stomach, it is believed, free iodine is liberated. It is possible that iodized calcium also contains excess iodides. Therefore we are disposed to assume that the combination is undesirable. After all, however, as we have so often said, reactions in the test tube and in the stomach may be entirely different.

QUERY 5991.—“Sexual Precocity.” M. C. B., South Dakota, reports the case of a boy between two and three years old, strong, well, and largely developed for his age, who since his infancy has had a distinct orgasm about once a month. The parents have watched him carefully and they assert that this occurs without any excitation on his part. (The child's appetite and digestion good.)

We cannot conceive of a child of this age having an orgasm. May we ask just why it is believed to occur? Emission would be impossible, as a matter of course.

The penis may become turgid at stated intervals; but such condition probably might arise from constipation, preputial smegma or a too tight or an elongated prepuce. The child probably ought to be circumcized. As to there being no excitation to cause these erections, are you sure that you have excluded thigh friction?

If you can give us further clinical data, we may be able to comment more intelligently. If circumcision is not indicated (it almost certainly is), keep the child's bowels open with laxative salines, and, moreover, search carefully for the presence of pinworms or other such cause.

QUERY 5992.—“Hemorrhoids.” “Ulcer of Colon.” J. C. C., Virginia, is treating a

patient for “bleeding hemorrhoids” and an ulcer of the sigmoid flexure of the colon, but who will not consent to an operation.” The patient complains of a continual pain in the left inguinal region, and when he is not under medical attention his bowels move about every thirty minutes in the daytime, while he is compelled to get up every night from one to three times. The stools generally are of a fluid character, and whenever he takes anything to stop the frequency of the actions, and they are formed, the feces are coated with bright-red blood. He feels well every other way, saying he would not mind the bowel movements if he could have the pain stopped.

“The man has ‘gone the rounds,’ and he declares that he has had this trouble ever since he can remember. He has been a pretty heavy drinker of whisky and everything else that he could get drunk on, but has not touched a drop since April 29, 1913. He complains more of this pain now since he stopped drinking than he did before he stopped. His appetite is good, he has not lost any flesh, sleeps well. His occupation is that of a traveling salesman, and he is on the road all the time. He has a stricture, and every time he drinks anything cold this stricture immediately contracts and he cannot pass his urine, so that a physician must pass a catheter.”

We regret to say that medicinal measures can hardly be expected to produce curative results in the case of this man. In the first place, it is impossible for us definitely to fix the origin of the blood which is voided with stool. Still, it is probable, as the blood is bright-red, and the hemorrhage more pronounced when the stools are formed, that it comes from the hemorrhoidal mass.

If the patient really desires to be cured, he should submit to a surgical procedure at the earliest possible moment. Of course, the sphincter ani can be dilated, the hemorrhoids be injected, and the ulcer treated through the sigmoid flexure. Were we in charge of this case, however, we should absolutely insist upon removal of the hemorrhoids, direct treatment of the ulcer, and dilatation of the urethra.

Are you quite sure, doctor, that there is not present more or less cirrhosis of the liver? How extensive is the ulceration? Have you examined the rectum carefully? There may be quite an extensive proctitis.

You say that the patient has “gone the rounds.” Naturally, he has traveled from doctor to doctor, and will continue to do so

until he finds some physician who will insist upon his submitting to effective treatment.

In the meantime, all you can do is, to prescribe such as, for instance, hamameloid, esculoid, and collinsonoid, two granules of each to be taken every three hours; and chionanthoid, 1 grain after each meal. Locally, order high injections of a solution of hamamelis and calendula, to be given morning and night. Also, a rectal suppository containing extract of *esculus hippocastanum*, gr. 1; extract of hamamelis, grs. 3; extract of collinsonia, gr. 1, one such inserted three times daily, may prove of benefit. The safest beverage is barley-water. Small doses of lobeloid or lobeline sulphate will control the urethral spasm.

The patient should drink no coffee or alcoholic beverages; smoke very little.

We earnestly urge you, however, not to promise any definite results from this treatment, but to insist positively upon surgical intervention.

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 QUERY 5993.—“Fistula in Ano. Submerged Tonsils.” J. C. H., Texas, is treating (1) a patient for an anal fistula that has no internal opening, so far as he can find; the external opening is three inches above the anus; the abscess opened eight months ago. For two months the doctor has been swabbing it out weekly with pure carbolic acid. The sinus is not so deep now, but the patient thinks it should be healed up. The patient is a man 22 years of age, of robust health.

(2) Enlarged tonsils in a girl of 9 years. The tonsils, it is explained, seem to be high and behind the soft palate to such an extent that it would be difficult to get the snare around them without including part of palate. How should that kind of tonsil be excised?

A “blind” fistula nearly always should be converted into a complete one, a probe being run through the fistula into the gut, and the anal sphincter divided under anesthesia, local or general. The fistulous tract should be curetted and the wound packed with gauze saturated with a good oil-solution of thymol iodide or an antiseptic oil, repacking daily until healing from the bottom occurs. Balsam of Peru may be used to stimulate granulation.

If there is only a short blind sinus ending some distance from the rectum, anesthetize, incise, scrape the fistulous tract, and pack with gauze wick, shortening the packing each day. The application of phenol, ichthyol, and the like, is quite useless as long as the lining membrane of the canal remains intact.

In the more rebellious cases, bacterins may be used advantageously.

In the case of submerged tonsils, you may have to dissect out the glands. You know, of course, that a quite dangerous hemorrhage may follow injury to the anterior faucial pillar. Many beginners fear wounding the internal carotid. However, this practically is impossible, as will be realized by studying a diagrammatic section of the pharynx.

The special causes of severe bleeding are: (1) Hemorrhagic diathesis. (2) Fibrosis, which replaces the glandular substance, preventing the divided arterioles from retracting. Naturally, this condition more often is encountered where the tonsil is divided instead of being extirpated. (3) Age; hemorrhage occurring more frequently in adults than in children. (4) Sex. More frequent in males than in females. (5) Acute inflammation of the gland. Operation should never be done under such circumstances. (6) Anemia due to lack of fibrin-forming elements. (7) Abnormalities in the distribution of the blood-vessels. (8) Local use of cocaine and adrenalin, leading to secondary hemorrhage.

As you readily will observe, if the hemorrhagic diathesis and extreme fibrosis can be excluded, the possibility of undue hemorrhage need not be feared.

You will readily understand, doctor, it is impossible for us here to outline at length the various operations for the removal of the tonsils, which are: (1) guillotine, (2) enucleation, (3) cold-wire snare, (4) galvanocautery, (5) morcellement.

If you can seize the tonsil and pull it forward and downward, it is probable that you can do a satisfactory tonsillectomy in this case with the guillotine.

Enucleation is indicated if the tonsil is shallow, wide-based, and so firmly adherent all around that it is impossible to press or drag the gland into the ring of the guillotine. In such cases, a general anesthetic is required.

The tonsil is seized and steadied with a conchotome, so that the mucous membrane above the upper pole can be divided with a pair of blunt-pointed scissors curved on the flap. This will allow the forefinger to be inserted between the pharyngeal wall and the capsule of the tonsil, so as to shell it out of its bed. If it remains attached below, where the tonsil shades into the lingual tonsil at the base of the tongue, separate with a wire snare.

We are inclined to believe that in your case the tonsil possibly can be dragged forward and gauged in the ring of the guillotine.

In this connection, let us call your attention to the excellent chapter on tonsillectomy in "Diseases of the Nose and Throat," by Thomson. (Appleton, publisher.) It is decidedly desirable, if any difficulty is anticipated, to anesthetize the child thoroughly. Altogether, we are inclined to think that, if you will elevate the palate, Mathieu's tonsillectome will remove the glands satisfactorily.

QUERY 5994.—"Nephrolithiasis." F. S. B., Oklahoma, asks as to "what is the best remedy for renal calculi, and whether there is any drug that will dissolve these stones or prevent their formation?"

As you will readily understand, doctor, the nature of urinary concretions, whether renal or vesical, first of all must be ascertained by careful analysis of the urine and other methods, treatment being governed by the findings.

There is not any drug known that will act as a general "solvent" of renal calculi. And then it must be remembered that calculus formation in the kidney is merely an evidence, or rather an end-product, of some abnormal process occurring within the body.

Modern urologists are inclined to designate calculi as "primary" and "secondary," according to their origin, the term "secondary" being applied to such calculi as can definitely be proven to be dependent upon bacterial invasion of the kidney. The causation of primary stone is still a matter of controversy.

Rainey's theory is accepted by many, namely: "When two saline solutions calculated to produce an insoluble salt by decomposition are allowed to mix gradually through a colloid medium, such as albumen, a small, firm, laminated body is developed, instead of crystalline matter, by the union of nascent salt with colloid."

More recent experiments, however, would seem to discredit the presence of colloid material as a prerequisite in the formation of calculi. Indeed, it is quite possible that the uric-acid infarcts present at birth may be the starting point of calculi in adult life, or any disease giving rise to excessive excretion of uric acid may produce a minute concretion which eventually may become of surgical importance.

It must be borne in mind that calculi may be present and extensive destruction of the kidney have occurred before any classic symptoms (hematuria, renal colic, fixed pain, etc.) occur.

Cole, in a recent article, states that most of the cases in which renal calculi have been

demonstrated by x-ray produced no symptoms sufficiently characteristic to justify an operation, and only those concretions engaged in the ureter or obstructing the pelvis cause typical renal pain.

Squire, in an article in the April, 1913, issue of *The American Journal of Surgery*, says:

"Patients complaining of slight pain in the back, tenderness over the kidney, and voiding urine containing a trace of albumin may be suspected of having calculi and should be given the benefit of a complete routine examination."

You will find this article of Squire's, and also another, "Report of Three Kidney-Stone Cases," by Bransford Lewis, in the same issue, of great interest.

In this country, the uric-acid variety of calculus is most prevalent, but in some of the worst cases of nephrolithiasis, oxalate of calcium calculi have been found.

Uric-acid stones and secondary deposits may vary in size from a grain of sand to enormous masses, some weighing as much as five pounds having been encountered. Calcium-oxalate calculi, on the other hand, rarely exceed the size of a hazelnut. Calculi are found more frequently in the right kidney than in the left.

The examination of the urine of a patient suspected of nephrolithiasis should be performed by a skilled bacteriologist. The practitioner should never be satisfied with his own examination. Radiography unquestionably is one of positive diagnostic method, if not the most important one.

The treatment is both medical and surgical and depends upon the symptoms of the patient and the aseptic or septic nature of the condition. Careful dieting is essential. Where the calculi are known to be small, diluents are of value; in uric-acid diathesis, alkaline diuretics should be given; in oxaluria, magnesium sulphate, saline laxatives, and dilute hydrochloric acid with the meals will prove helpful. In phosphaturia, give phosphorus, and arsenic. Acid treatment, i. e., dilute nitromuriatic acid, three times daily may prove beneficial.

It is evident that you cannot institute a "solvent treatment" for renal calculi. Where there is a tendency to the formation of calculi or small concretions are passing through the ureter, medicinal measures may prove beneficial; but if calculi of any size are present surgical procedure alone can afford relief, and the earlier the diagnosis is made and operation done, the better chance of the patient's recovery.

QUERY 5995.—“Sterilization of Female With Contracted Pelvis.” A. Y., Syria, requests an answer to the following question: “Three sisters died in labor, the fourth also was in labor not long ago, but her life was saved through craniotomy. Her pelvis was abnormal. What steps should be taken to prevent her from becoming pregnant again?”

It must be borne in mind that in these days cesarean section is comparatively so safe an operation that a contracted pelvis is not deemed a sufficient reason for sterilizing a woman; that is to say, of course, where it is possible for her to receive skilful attention in a properly appointed hospital. On the other hand, if the woman is tuberculous, or suffers from osteomalacia or other disease in itself a contraindication to pregnancy, she certainly should be rendered incapable of conceiving.

One of several methods may be pursued under such circumstance. However, ligation, simple section or exsection of a portion of the fallopian tube have not proved a positive preventive. Other methods are: ovariectomy, ablation of the fallopian tube or removal of a wedge-shaped piece of the uterine horn containing the respective tube.

The most simple method, perhaps, is exsection of an inch-piece, or so, of each tube proximal to the uterus and the burying of both severed ends under the peritoneum of the broad ligament. This is decidedly the operation of choice, as it would be possible, should pregnancy later be desired, to reopen the abdomen and anastomose the severed ends.

Extirpation of the womb, which frequently is recommended, should not be considered as a means of insuring sterility, particularly in the case of young women.

If further interested, you will find this subject thoroughly covered in the more modern works on obstetrics. We strongly recommend, doctor, that you procure “Principles and Practice of Obstetrics,” by Joseph DeLee. (Saunders, 1913.)

QUERY 5996.—“Sexual Debility.” L. V. D., Missouri, has under observation a man sixty-

four years of age who is very anxious to marry again but feels his incompetence to attend to expected “marital duties.” He is very desirous of reacquiring “ability.” His life has been quite active in this direction. The man’s bowels and kidneys are regular, appetite is good. He had a slight stroke of apoplexy over a year ago, but the result has entirely passed. He has a blood pressure of 180. Autocondensation, the passing of sounds (there is slight prostatic enlargement) and high-frequency current (urethral electrode) have given very little result so far. Chromium sulphate and brucine are now being administered.

The present writer has mailed to you a reprint of his rather exhaustive article on the treatment of sexual debility. If, after reading this carefully, you should desire further suggestions, it is important that you make a thorough examination of your patient and then furnish us clear clinical data; we shall then be in a position to aid you more effectively.

At present we will say that, perhaps, you will find nuclein and neurolecithin, alternated with nucleinated phosphates and aphrodisiac tonic, beneficial. You must remember, though, that your man is sixty-four years old, has had apoplexy and still has high blood pressure. Stimulation in such cases is dangerous, but without it we can hardly expect the restoration of sexual vigor. Nature is inexorable in this respect; though some men enjoy a species of Indian summer, the winter days must inevitably come. In fact, nature did not intend the old to reproduce their kind, and sexual activity without the possibility of reproduction is distinctly opposed to the natural order of things.

You state that your patient has led an active sexual life. Well, if a man overdraws his account at the bank, he must expect some day to have his checks come back marked “no funds.” It is extremely questionable whether it is desirable to fan the dying flame. Very disastrous results as of course you are aware, have followed such a course sometimes. However, if we can aid you further, do not hesitate to call upon us.

